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Sugar and Sweeteners Outlook

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Increased Domestic Production Raises U.S. Sugar Supplies in 2018/19

In the February *World Agricultural Supply and Demand* Estimates (WASDE), U.S. sugar supplies for 2018/19 are projected to be 132,000 short tons, raw value (STRV) larger than in the previous WASDE. This increase is due to 60,000 STRV of higher beginning stocks and 76,000 STRV from increased cane sugar production being only slightly offset by 4,000 STRV fewer projected imports. No changes were made to sugar use projections. Ending stocks are projected to total 1.795 million STRV, or a 14.6-percent stocks-to-use ratio compared with the previous month's projection of 13.5 percent.

There were no changes to the Mexico sugar supply and use table. Domestic production in Mexico is projected to total 6.025 million metric tons, actual value. Despite substantially higher exports to non-U.S. destinations, ending stocks are projected to be 1.330 million MT, or a relatively high stocks-to-consumption ratio of 30.1 percent.

U.S. Domestic Outlook

Increased Sugarcane Forecasts in Florida and Louisiana Increase Domestic Sugar Production Outlook

Increased domestic production, specifically from the cane sector, raises the outlook for sugar supplies in the United States in 2018/19. Revised 2017/18 data in the Farm Service Agency's (FSA) *Sweetener Market Data* (SMD) from released in February also showed a larger carryin coming into the year. The February *World Agricultural Supply and Demand Estimates* (WASDE) projects U.S. sugar supplies at 14.100 million short tons, raw value (STRV), a 132,000-STRV increase from the previous WASDE report.

Table 1: U.S. sugar: supply and use, by fiscal year (Oct./Sept.), February 2019

Items	2017/18 2018/19				2017/18	2018/19	
	2016/17	(estimate)	(forecast)	2016/17	(estimate)	(forecast)	
	1,000 Short tons, raw value			1,000 Me	etric tons, raw	ns, raw value	
Beginning stocks	2,054	1,876	2,008	1,863	1,702	1,822	
Total production	8,969	9,293	9,017	8,137	8,430	8,180	
Beet sugar	5,103	5,279	4,900	4,629	4,789	4,445	
Cane sugar	3,866	4,014	4,117	3,507	3,641		
Florida	2,055	1,983	2,091	1,864	1,799		
Louisiana	1,628	1,862	1,875	1,477	1,689	1,701	
Texas	140	169	150	127	153	136	
Hawaii	43	0	0	39	0	0	
Total imports	3,244	3,277	3,076	2,943	2,973	2,790	
Tariff-rate quota imports	1,611	1,663	1,560	1,462	1,509	1,415	
Other program imports	419	326	350	380	296	318	
Non-program imports	1,213	1,287	1,165	1,101	1,168	1,057	
Mexico	1,201	1,223	1,120	1,090	1,110	1,016	
Total supply	14,267	14,445	14,100	12,943	13,105	12,792	
Total exports	95	170	35	86	154	32	
Miscellaneous	38	82	0	35	75	0	
Deliveries for domestic use Transfer to sugar-containing products	12,258	12,185	12,270	11,121	11,054	11,131	
for exports under re-export program	127	110	120	115	100	109	
Transfer to polyhydric alcohol, feed, other alcohol	29	28	25	27	25		
Commodity Credit Corporation (CCC) sale for ethanol, other	0	0	0	0	0		
Deliveries for domestic food and beverage use	12,102	12,048	12,125	10,979	10,930		
Total use	12,391	12,438	12,305	11,241	11,283	11,163	
Ending stocks	1,876	2,008	1,795	1,702	1,822	1,629	
Private	1,876	2,008	1,795	1,702	1,822	1,629	
Commodity Credit Corporation (CCC)	0	0	0	0	0		
Stocks-to-use ratio	15.14	16.14	14.59	15.14	16.14	14.59	

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

Beet sugar production is projected to be 4.900 million STRV, unchanged from the December WASDE. The National Agricultural Statistics Service (NASS) February *Crop Production* report

reduced forecast sugarbeet production 1.1 percent from its previous forecast to total 33.145 million short tons. The reduction is primarily due to lower yields, but fewer harvested acres were also forecast for 2018/19. Compared with the previous year, 2018/19 forecast yields are 4.6 percent lower, and harvested acres are 1.7 percent lower.

Lower sugarbeet production for 2018/19 is offset by slightly higher extraction rates from sliced beets. Through December, processors' reporting shows extraction rates slightly lower than the 10-year average. Current projections assume that this trend continues for the remainder of the campaign. Projected shrink rates are in line with recent-year averages. Much of the Great Plains, Upper Midwest, and Northeast experienced severe cold conditions during late January and early February, and in some places this cold was quickly replaced by unseasonably warm temperatures. Such large swings in temperature—particularly ones that oscillate above and below freezing temperatures—can cause detrimental conditions that affect the quality of sugarbeets in piles waiting to be sliced and processed for sugar. The impacts of these weather conditions have not been fully realized, however, and have not yet been incorporated into current projections. Subsequent reporting and data will reveal any substantial market impacts on affected sugarbeet piles.

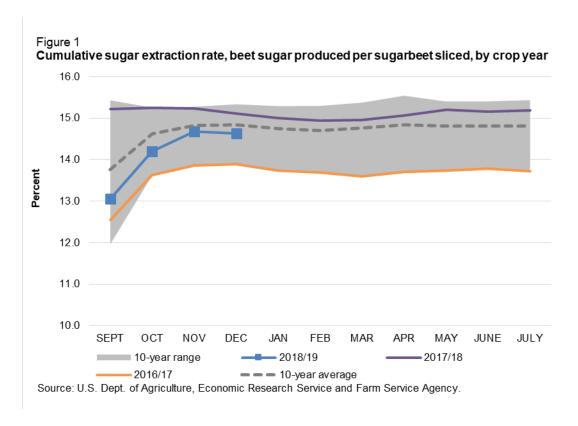


Table 2: Beet sugar production projection calculation, 2018/19

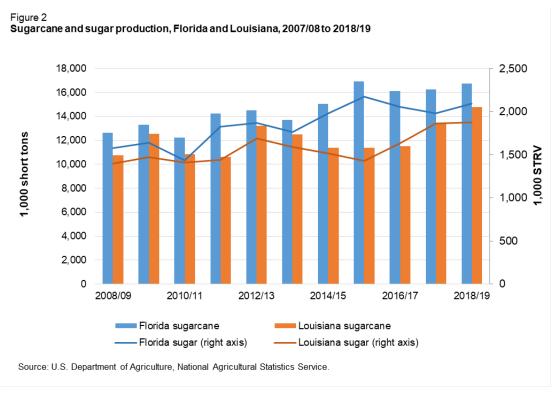
	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2018/19	2018/19
							November	December	February
Sugarbeet production (1,000 short tons) 1/	35,224	32,789	31,285	35,371	36,881	35,325	33,504	33,504	33,145
Sugarbeet shrink 2/	4.8%	6.8%	5.4%	6.5%	8.3%	7.3%	6.9%	6.9%	6.9%
Sugarbeet sliced (1,000 short tons)	33,532	30,545	29,595	33,066	33,834	32,742	31,192	31,192	30,858
Sugar extraction rate from slice	15.3%	14.3%	14.6%	14.6%	13.7%	15.2%	14.7%	14.5%	14.7%
Sugar from beets slice (1,000 STRV)	5,142	4,325	4,325	4,820	4,643	4,970	4,596	4,523	4,522
Sugar from molasses (1,000 STRV) 2/	327	324	341	380	352	368	368	368	368
Crop-year sugar production (1,000 STRV) 3/	5,469	4,648	4,667	5,201	4,995	5,338	4,964	4,890	4,890
August-September sugar production (1,000 STRV)	708	315	461	688	606	715	655	655	655
August-September sugar production forecast (1,000 STRV)	315	461	688	606	715	655	625	625	625
Sugar from imported beets (1,000 STRV) 4/							40	40	40
Fiscal year sugar production (1,000 STRV)	5,076	4,794	4,893	5,119	5,103	5,279	4,974	4,900	4,900

Notes: 1/ National Agricultural Statistics Service, U.S. Dept. of Agriculture. 2/Projections based on processor forecasts published by U.S. Dept. of Agriculture, Farm Service Agency. 3/ August-July basis. 4/ Sugar from imported beets split out for projections only, included in total once full crop-year slice is recorded. They are incorporated into total production in historical data.

Source: U.S. Dept. of Agriculture, Economic Research Service and World Agricultural Outlook Board.

The sugarcane harvest for 2018/19 has progressed smoothly thus far in the year, increasing the outlook for production from the domestic cane sector. Cane sugar production for 2018/19 is projected at 4.117 million STRV, a 76,000-STRV increase from the previous WASDE.

Sugarcane production in Florida and Louisiana—the two largest-producing States—was raised by NASS in the latest *Crop Production* report. Florida sugarcane yields for sugar are projected to be 42.2 short tons per acre, a 3.2-percent increase from the previous year, leading to a 3.2-percent annual increase in sugarcane production as well, if realized. Cane sugar production in Florida is projected to be 2.091 million STRV for 2018/19, a 41,000-STRV increase from the previous projection.



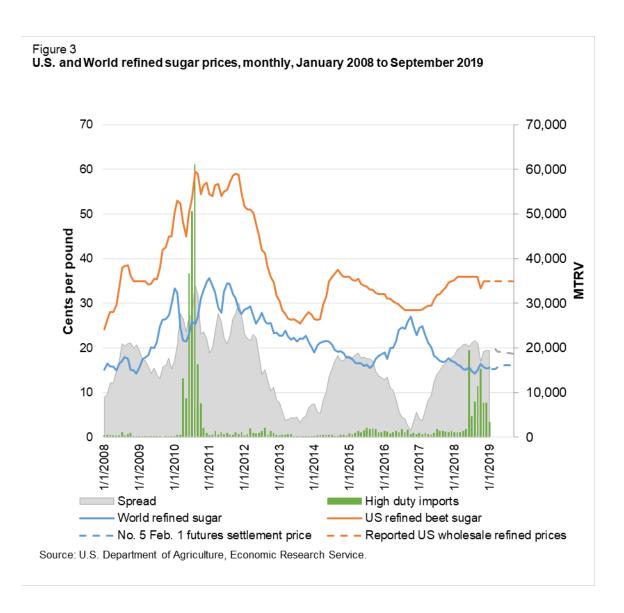
NASS raised its Louisiana forecast of sugarcane production in 2018/19 as well, to 14.682 million short tons—a 9.9-percent increase from the previous year and a record. Reports indicate that the harvest continued smoothly before concluding in mid-January, in line with expectations of a normal year. Cane sugar production in Louisiana is projected to be 1.875 million STRV—a 35,000-STRV increase from the December report—based on preliminary manufacturing reports and the assumption of September 2019 production from the 2019/20 crop in line with historical averages. This would also represent a record for the State.

Projected Imports Under Quota Program Adjusted Slightly Lower for 2018/19

U.S. sugar imports for 2018/19 are projected to be 3.076 million STRV, a 4,000-STRV decrease from the previous projection. The entirety of the change is due to fewer imports under quota programs. Imports under the WTO raw sugar TRQ are increased 12,000 STRV, based on entries from October 2018 that were entered under the 2017/18 quota with a waiver. The expected shortfall from the 2018/19 quota remains unchanged at 99,000 STRV. This is more than offset by a 16,000-STRV reduction in entries under free-trade agreement (FTA) quotas. The reduction is due to lower-than-expected entries from FTAs through December, which operate on a calendar-year basis and therefore will be underfilled.

Imports from Mexico are projected to be 1.120 million STRV in 2018/19, unchanged from the previous forecast. This is primarily based on the calculation of U.S. Needs from the December 2018 WASDE report, as specified by the Suspension Agreements.

Imports coming in under higher-duty rates are projected to be 45,000 STRV, also unchanged from the previous projection. Through January, the Foreign Agricultural Service (FAS) estimates that 34,000 STRV have already entered. The pace of these entries has been expected to decrease for the remainder of the year—although to remain large relative to the paces seen in recent years- as the spread between prices for refined sugar on the world futures market and the U.S. wholesale market has narrowed somewhat.

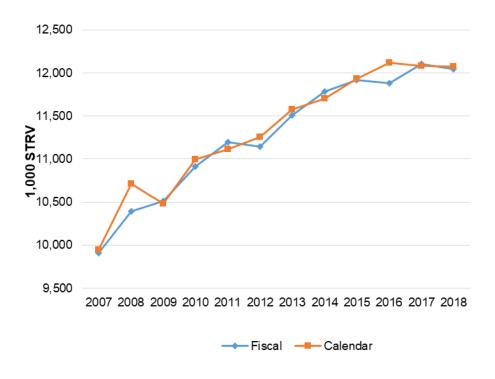


Calendar Year Deliveries in 2018 Down for Second-Consecutive Year

Domestic deliveries for 2018/19 are projected at 12.270 million STRV, unchanged from the previous projection. Deliveries for food and beverage use is projected to be 12.125 million STRV of that total, which would be a 0.6-percent increase from 2017/18 levels.

Deliveries for food and beverage use for calendar year 2018 were released for the first time with the latest release of the FSA's SMD. Deliveries were down a slight 0.1 percent, totaling 12.071 million STRV, compared with the 2017 mark of 12.083 million STRV. This represents the second consecutive year in which calendar year deliveries have declined, after 7 consecutive years of increases.

Figure 5
Total U.S. sugar deliveries, fiscal and calendar year, 2008 to 2018



Source: U.S. Department of Agriculture, Farm Service Agency.

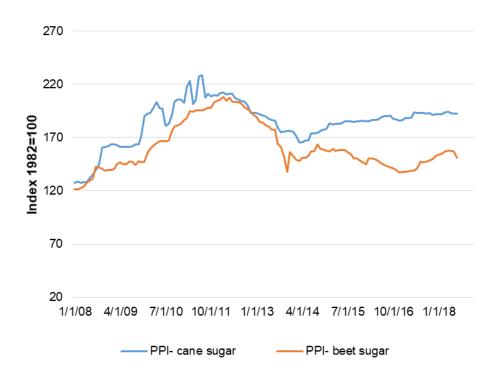
Calendar year totals are significant in analysis to provide insight into fiscal year projections for two reasons. First, calendar year deliveries have been less volatile than fiscal year totals. This is because the October 1 beginning of the fiscal year falls during the high season for deliveries, as shipments ahead of the holiday season are taking place. It also falls during the start of the sugarbeet marketing year, as many processors begin to transition from early beet sugar production to the sugarbeet crop stored in piles for the winter slicing campaign. Finally, the October 1 start of the fiscal year comes at the end of hurricane season. Storms that affect sugarcane producing regions or large port refining facilities areas can affect refining capacities or logistics. Changes in fiscal year deliveries may reflect events in one or several of these instances that can mask or obscure changes in underlying demand.

The second, and somewhat related, reason to analyze calendar year totals is that sugar marketing typically operates on a calendar year basis. Many contracts between sugar sellers and buyers that establish terms, including volumes and the basis for pricing, are structured on a calendar year. As a result, changes in demand or market structure are likely to be more evident when evaluating the market in the same time period as most of the marketing contracts and arrangements.

The recent trends in deliveries raise the question, is a structural change in demand structure for refined sugar in the United States is occurring? Since 2008, there have been several key factors supporting trends in the refined sugar market. First, per capita deliveries of caloric sweeteners (including corn sweeteners, honey, syrups, etc., as well as refined sugar) have been declining steadily since 2000. Refined sugar has been accounting for a larger share of the total caloric sweetener market since 2008, primarily at the expense of corn sweeteners. As a result, relatively higher per capita consumption of refined sugar and population growth have been the fundamental factors in higher deliveries over the past 10 years. In deciding if these drivers are still the primary factors affecting U.S. refined sugar demand, there are several important market factors that may indicate whether recent data reflect a shorter term deviation or the beginning of a longer term trend.

First, refined sugar markets in the United States are not sensitive to prices on an annual basis. A simple observation of the volatility of refined sugar prices and the steady growth of refined sugar deliveries since 2008 is one way to illustrate that. Since 2008, annual wholesale refined beet sugar prices have ranged as high as 56.22 cents per pound (2011) and as low as 27.22 cents (2013). Likewise, Producer Price Indices (PPI) for both refined cane and beet sugar have undergone a full cycle of increases and decreases, with little response from total deliveries from year to year. Statistical analysis confirms that there is no significant relationship between prices and deliveries. Given that refined sugar is primarily an intermediate good used in food manufacturing that requires long-term planning to reformulate ingredients, it is not surprising that sugar would be an inelastic product.

Figure 6
Refined sugar prices, Producer Price Index, monthly

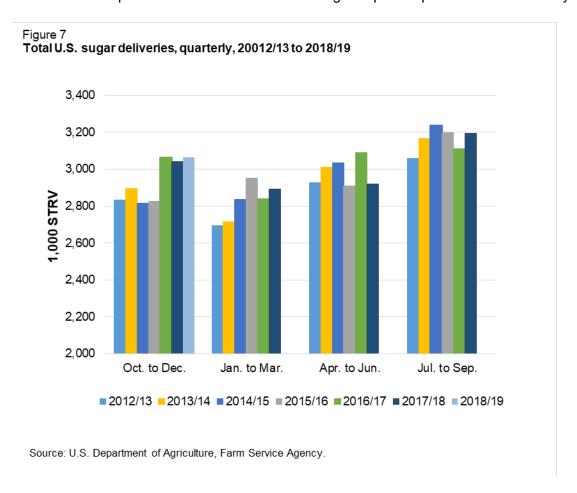


Source: U.S. Department of Agriculture, Economic Research Service.

Statistical analysis shows that deliveries are responsive to time trend variables, which are representative of gradual changes in consumer preferences. Given the most recent data, these trends show that the rate of growth from market preferences is decreasing—or essentially that the increasing trend is showing signs of flattening. Many analysts point to the increased awareness of sugar consumption by consumers; the marketing and formulation strategies of many food manufacturers; and financial results from individual food manufacturers as evidence that demand for sugar should be lower. Historical data demonstrates that changes to overall deliveries are gradual and slow relative to the overall market size; and customer preferences or perceptions of short-term market trends can be fickle and often don't align with current data for deliveries.

The second important recent factor to weigh in analyzing changes in structural demand is seasonality. The U.S. sugar deliveries market has long established a seasonal cycle within a year, with the busiest season for deliveries during the July to September quarter, continuing into the October to December quarter. This peak is largely driven by a seasonal build in demand from the holiday period. The deliveries are typically at a seasonal low during the January to

March quarter and begin to build again in the April to June quarter. Beet sugar processors and cane sugar refiners coordinate their inventories based on these expected seasonal patterns, in concert with domestic production conditions and raw sugar import shipments and availability.



In recent years, there have been several changes and shifts in seasonal patterns that have implications for analysis in longer terms trends. First, deliveries during the October quarter have been significantly larger for the 3 consecutive years-going back to 2016. This can largely be explained by more deliveries from beet processors during this period. In recent years, beet processors have increased sugar production from early season sugarbeets to match higher sugarbeet production with the current processing and refined sugar storage capacities available in the sector.

The second trend in seasonality is appearing in quarters with sharp drops in deliveries relative to expected seasonal patterns. This occurred in the April quarters of 2016 and 2018, as well as the July quarter in 2017. One explanation for such drops is the implementation of the Suspension Agreements with the United States and Mexico, which affected availability of sugar from Mexico by imposing limits on shipments and constraints on timing through an Export Limit

Period and Seasonal Patterns defined within the agreement. Another explanation for these drops are periods of policy uncertainty, such as when the Suspension Agreement was being negotiated between the U.S. Department of Commerce and Government of Mexico in 2014 and 2015, when the updated terms were being negotiated in 2017, and when GMO Labeling legislation was being deliberated in Congress in 2016. Each of these events resulted in uncertainty in the market as to the future terms of trade in the U.S. sugar market, which may have resulted in short-term changes to marketing patterns and strategies.

The above factors are significant in analyzing overall demand because a common analysis for the outlook for deliveries is to compare the pace to recent years. Such analysis can be complicated when seasonal patterns are not consistent. It is important to note that the recent declines in year-over-year deliveries are the not the result of a steady change that occurs throughout the year, but are typically the result of a single quarter falling below expected trends. As a result, it is not clear if these declines are the result of a temporary market dislocation that will be resolved, or evidence of a more permanent structural demand change.

The final factor to consider in the implications of the trends is the import levels of sugar-containing products (SCP). Historically, there have been periods where increases in products containing sugar imported in the United States have displaced domestic deliveries. During those periods, a combination of domestic market conditions and tariff code structure made it more advantageous to import final manufactured products than domestically produced products. Analysis of this portion of the market is challenging due to gaps in data and information when extrapolating the volume of sugar contained in products organized by Harmonized Tariff Code (HTS) categories. Products falling under the same HTS category can have different formulations, and these formulations can change over time.

Looking at annual changes of the commercial volumes of HTS codes of SCP shows that there has been evidence of increased imports in some years for some products. Sugar confectionary is one example of an SCP category with products that likely have high sugar content. Data shows that imports have increased from 2014 and 2018, although not at a steady pace; with January to November trade totaling 523,000 MT in 2014 and reaching 596,000 MT over the same period of 2018. The trend has been halting, though—with a decrease in 2015 and very small growth in 2017 rather than a steady increase over time. Overall, imports of SCP are another factor affecting domestic sugar deliveries forecasts and the longer term outlook

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15%

10%

5%

0%

2014

2015

2016

2017

2018

-10%

Sugar Confectionery

Chewing Gum

Figure 8
U.S. imports of sugar containing products, annual percentage change,
January through November, 2014 to 2018

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

Mixes And Doughs

■ Sauces Nes.

Prices and Inventories Remain Stable through Early 2018/19

■ Ice Cream

■ Chocolate. Nesoi

Ending stocks in 2018/19 are projected to be 1.795 million STRV, a 132,000-STRV increase from the December WASDE. The increase is due to the higher production outlook with no changes to projected use. That would result in a stocks-to-use ratio of 14.6 percent—larger than the 13.5 percent projected in December, but below the revised figure of 16.1 percent for 2017/18.

Through December 2018, total sugar stocks totaled 4.333 million STRV, a 5.7-percent increase from the year prior. Despite the overall increase, both the cane and beet sectors appear to have inventories at manageable levels, given the current pace of deliveries through the first quarter of 2018/19. Beet processors had 1.869 million STRV of refined sugar in inventories, higher than the previous year but in line with recent averages. Raw and refined Inventories in the cane sector were 3.3 percent higher than December of the previous year. While refined sugar inventories for cane refiners were lower than the previous year, refiners' raw sugar inventories were larger, and more in line with historical averages compared with large

inventories that were being carried in the latter half of 2017/18. Cane processors were carrying 7.8 percent more raw sugar than at the same time the previous year, likely buoyed by the second-consecutive year of record sugar production in Louisiana.

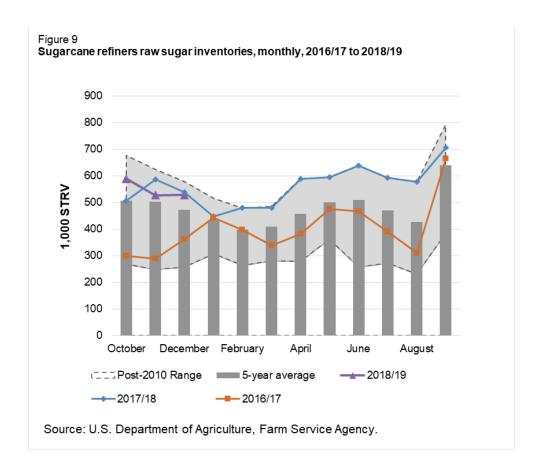
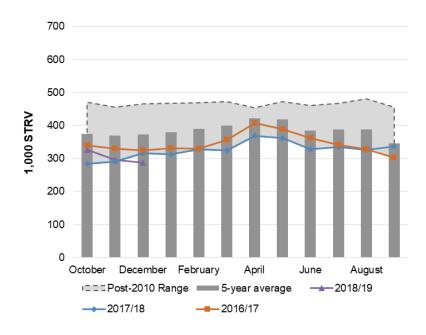
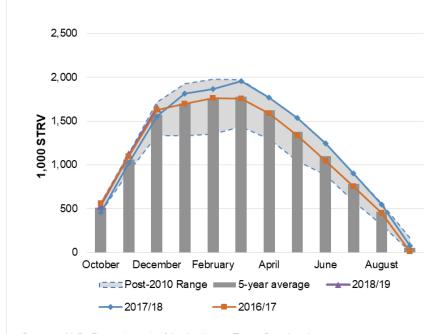


Figure 10 Sugarcane refiners' refined sugar inventories, monthly, 2016/17 to 2018/19

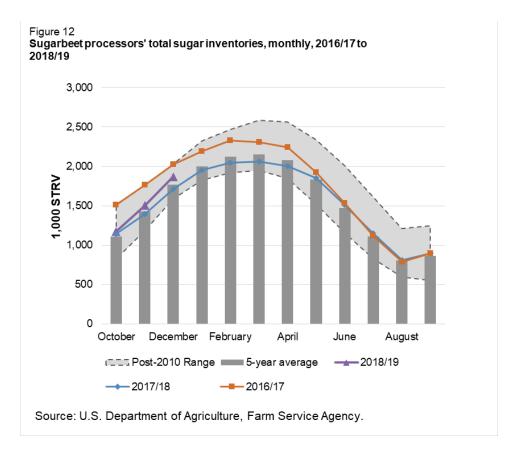


Source: U.S. Department of Agriculture, Farm Service Agency.

Figure 11 Sugarcane processors inventories, monthly, 2016/17 to 2018/19

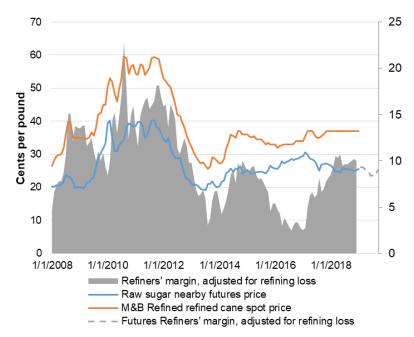


Source: U.S. Department of Agriculture, Farm Service Agency.



Sugar prices have remained relatively stable since the beginning of 2019. Refined cane and beet sugar spot market prices were 37 cents and 35 cents per pound, respectively, carried over from the end of 2018. The January 2019 average price for nearby U.S. raw sugar futures contracts was 25.57 cents per pound—increasing for the second-consecutive month, but in line with price levels since June 2018. Based on futures contracts and spot price activity, refiners' margins for the duration of 2018/19 appear to be relatively healthy and well above levels during 2016/17, which saw limited availability and higher prices for raw sugar.

Figure 13 U.S. refiner margins, monthly, January 2008 to October 2019



Source: U.S. Department of Agriculture, Economic Research Service.

Mexico Outlook

Mexico Sugarcane Harvest Shows Strong Yields Heading into the Height of the 2018/19 Season

Mexico is projected to have 7.490 million metric tons, actual value (MT) of sugar supplies in 2018/19. This is unchanged from the previous month's outlook, but represents a 3.6-percent increase from 2017/18. The increase is primarily due to a 39.1-percent increase in beginning stocks, due to substantial supplies remaining from the previous marketing year that had a decline in both domestic use and exports.

Mexico production for 2018/19 is projected to be 6.025 million MT, unchanged from the December projection. The Mexican sugarcane harvest campaign has started on a relatively strong note, according to Conadesuca. Through January 26, sugarcane production lagged slightly behind the pace set at the same time the previous year. Weekly results from after the New Year holiday showed strong yields, which helped boost sugar production heading into the height of the harvest season.

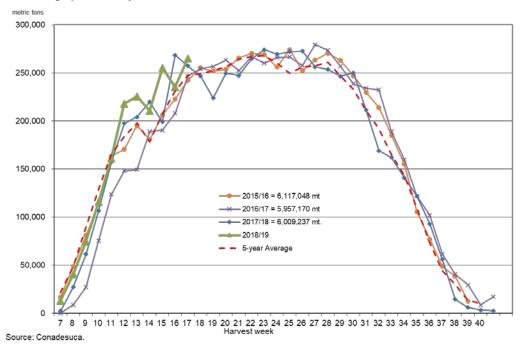
Table 3: Mexico sugar supply and use, 2016/17 - 2017/18 and projected 2018/19, February 2019

Items	2016/17	2017/18 (estimate)	2018/19 (forecast)
	1,	000 metric tons, actual weight	
Beginning stocks	1,037	1,002	1,395
Production	5,957	6,010	6,025
Imports	93	220	70
Imports for consumption	48	132	20
Imports for sugar-containing product exports, IMMEX 1/, ot	45	88	50
Total supply	7,087	7,232	7,490
Disappearance			
Human consumption	4,515	4,228	4,413
For sugar-containing product exports (IMMEX)	397	482	480
Other deliveries and end-of-year statistical adjustment	-61	29	0
Total	4,851	4,739	4,893
Exports	1,234	1,099	1,266
Exports to the United States & Puerto Rico	1,028	1,047	959
Exports to other countries	205	52	307
Total use	6,085	5,838	6,159
Ending stocks	1,002	1,395	1,330
		1,000 metric tons, raw value	
Beginning stocks	1,099	1,062	1,478
Production	6,315	6,370	6,387
Imports	98	234	74
Imports for consumption	51	140	21
Imports for sugar-containing product exports (IMMEX)	47	93	53
Total supply	7,512	7,666	7,939
Disappearance			
Human consumption	4,786	4,482	4,678
For sugar-containing product exports (IMMEX)	420	510	509
Other deliveries and end-of-year statistical adjustment	-64	31	0
Total	5,142	5,023	5,187
Exports	1,308	1,165	1,342
Exports to the United States & Puerto Rico	1,090	1,110	1,016
Exports to other countries	218	55	326
Total use	6,450	6,188	6,529
Ending stocks	1,062	1,478	1,410
Stocks-to-human consumption (percent)	22.2	33.0	30.1
Stocks-to-use (percent)	16.5	23.9	21.6
High fructose corn syrup (HFCS) consumption (dry weight)	1,522	1,593	1,593

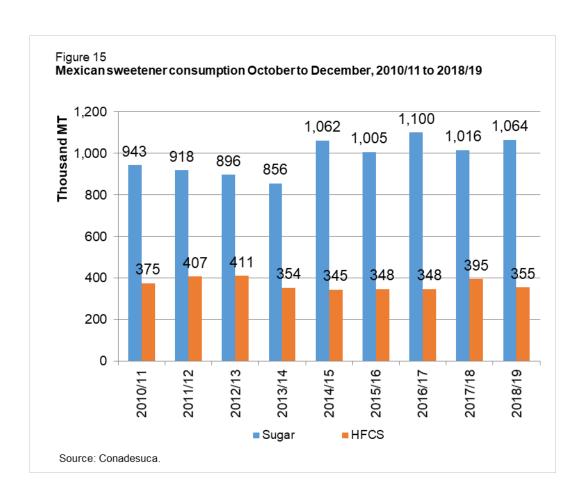
^{1/} IMMEX = Industria Manufacturera, Maquiladora y de Servicios de Exportación.

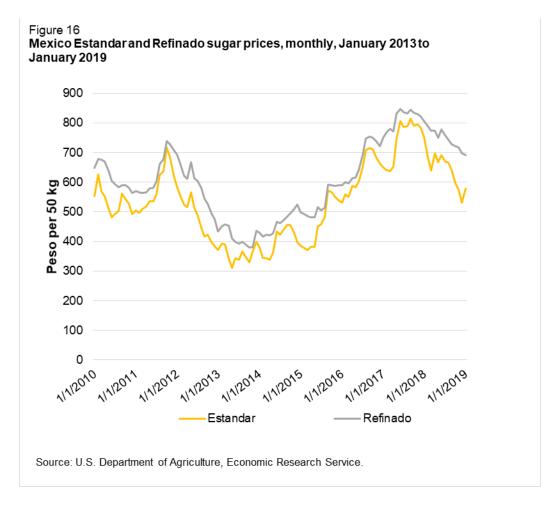
Source: USDA, World Agricultural Supply and Demand Estimates and Economic Research Service, Sugar and Sweeteners Outlook; Conadesuca.

Figure 14
Mexico sugar production, by week of harvest, 2015/16-2018/19



Domestic deliveries for human consumption are projected to total 4.413 million MT, also unchanged from the previous projection, but a 4.4-percent increase from the sharp drop in 2017/18. Through December, Conadesuca shows that sugar deliveries totaled 1.064 million MT, a 4.7-percent increase from the previous month. Deliveries for high fructose corn syrup (HFCS) were 355,000 MT through the same time period, or 10.0-percent lower than 2017/18. This change in trend from the previous year is likely due, at least in part, to lower domestic sugar prices in Mexico. Wholesale prices in the Mexico City market for estandar sugar averaged 580 pesos per 50 kg, compared with 690 pesos in June 2018 and over 800 pesos in June 2017. With relatively lower sugar prices, the pace of sweetener deliveries appear to be in line with longer run historical trends.





Exports for 2018/19 are projected to be 1.266 million MT, which would be a 15.2-percent increase from 2017/18 totals. Exports to the United States are projected to total 959,000 MT, based on the December calculation of U.S. Needs and the terms of the Suspension Agreement. Exports to other countries, however, are projected to total 307,000 MT—compared with the 52,000 MT that were shipped the previous year. The increase in exports to other countries is primarily due to the implementation of a certificate program by the Government, which was to facilitate the merchandising of Mexico sugar to the global market. Through December, Mexico reported shipping 216,000 MT of sugar to countries outside the United States, with only 46,000 MT of sugar still in inventories under the program.

Ending stocks for 2018/19 are projected to total 1.330 million MT, unchanged from the December projection. This would result in a 30.1-percent stocks-to-consumption ratio and the second consecutive year of large stock levels despite the increase in exports.

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