



Sugar and Sweeteners Outlook: December 2021

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Sugar Supplies Reduced for U.S., Unchanged for Mexico

U.S. sugar supplies for 2021/22 are reduced from last month on lower beginning stocks, domestic sugar production, and imports from Mexico more than offsetting the 50,000-short tons, raw value (STRV) increase in high-tier imports. A correction to the August 2021 import data in the *Sweetener Market Data* (SMD) report reduced the 2020/21 ending stocks by 26,000 STRV, which in turn reduced the 2021/22 beginning stocks. Beet sugar production and Louisiana cane sugar production for 2021/22 is decreased by 20,000 STRV and 71,600 STRV, respectively. Expected imports from Mexico are lowered 19,000 STRV, based on the terms of the suspension agreements and slight adjustment to include an amount from the 2020/21 export allocation that was permitted late entry by the Department of Commerce. High-tier tariff imports are increased by 50,000 STRV on pace of actual entries through the beginning of December based on U.S. Customs and Border Protection data. With sugar use for 2021/22 unchanged, ending stocks are lowered 87,000 STRV to 1.678 million STRV, with an ending stocks-to-ratio of 13.6 percent.

Mexican exports to United States are reduced 16,400 metric tons (MT), and exports to other countries increased by the same amount.

U.S. Outlook Summary

Stocks Revised Lower for 2020/21, Reduced for 2021/22

The December *World Agricultural Supply and Demand Estimates (WASDE)* revised the U.S. 2020/21 total sugar deliveries by 26,000 STRV to 12.341 million due to import data corrections for August in the *Sweetener Market Data (SMD)* report (table 1). This correction to deliveries resulted in ending stocks being lowered by a like amount to 1.700 million STRV. The net effect is a revised stocks-to-use ratio of 13.8 percent, which is down 0.3 percentage points compared with last month (table 1).

Lower stocks are also projected for 2021/22 as the lower beginning stocks, domestic sugar production, and imports from Mexico more than offset the 50,000-STRV increase in high-tier imports. With use unchanged at 12.305 million STRV, the resulting 2021/22 ending stocks-to-use ratio is 13.6 percent, which is 0.2 percentage lower than the revised 2020/21 ratio. Spot and futures prices for domestic refined sugar and raw cane sugar are holding close to levels that make high-tier imports economically feasible.

Table 1: U.S. sugar: supply and use by fiscal year (October/September), December 2021

Items	2019/20	2020/21		2021/22			
		(estimate) November	(estimate) December	Monthly change	(forecast) November	(forecast) December	Monthly change
				1,000 short tons raw value			
Beginning stocks	1,783	1,618	1,618	0	1,728	1,702	-26
Total production	8,149	9,231	9,231	0	9,332	9,240	-92
Beet sugar	4,351	5,092	5,092	0	5,413	5,393	-20
Cane sugar	3,798	4,139	4,139	0	3,919	3,847	-72
Florida	2,106	2,089	2,089	0	2,005	2,005	0
Louisiana	1,566	1,916	1,916	0	1,784	1,712	-72
Texas	126	134	134	0	130	130	0
Hawaii	0	0	0	0			0
Total imports	4,165	3,195	3,195	0	3,045	3,076	31
Tariff-rate quota imports	2,152	1,749	1,749	0	1,611	1,611	0
Other program imports	432	292	292	0	250	250	0
Non-program imports	1,581	1,154	1,154	0	1,184	1,215	31
Mexico	1,376	968	967	-1	1,084	1,065	-19
High-duty	206	186	187	1	100	150	50
Total supply	14,097	14,043	14,043	0	14,105	14,018	-87
Total exports	61	49	49	0	35	35	0
Miscellaneous	74	40	40	0	0	0	0
Deliveries for domestic use	12,344	12,225	12,252	26	12,305	12,305	0
Transfer to sugar-containing products for exports under re-export program	78	89	89	0	80	80	0
Transfer to polyhydric alcohol, feed, other alcohol	20	27	27	0	25	25	0
Commodity Credit Corporation (CCC) sale for ethanol	0	0	0	0	0	0	0
Deliveries for domestic food and beverage use	12,246	12,109	12,135	26	12,200	12,200	0
Total use	12,479	12,316	12,341	25	12,340	12,340	0
Ending stocks	1,618	1,728	1,702	-26	1,765	1,678	-87
Private	1,618	1,728	1,702	-26	1,765	1,678	-87
Commodity Credit Corporation (CCC)	0	0	0	0	0	0	0
Stocks-to-use ratio (percent)	13.0	14.0	13.8	-0.2	14.3	13.6	-0.7

Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates (WASDE)* report.

Beet Sugar Production Decreased

Beet sugar production for 2021/22 is decreased by 19,871 STRV to 5.393 million (table 2). Similar to last month, the beet sugar projection was based on the processors' forecast in the December 9 SMD report, which updated the sugarbeets sliced estimate to 33.956 million short tons, down 135,207 from last month due to processors' expectation of higher shrink in the sugarbeet piles. The National Agricultural Statistics Service's (NASS) *Crop Production* report did not include updated forecasts for the sugarbeet crop in December. Following its normal

schedule, NASS will publish the final data on area harvested, yield, and sugarbeet production in January.

There are no changes made to sucrose recovery, sugar produced from desugared molasses, and August-September 2022 production. Cumulative sucrose recovery appears to be in line with historical levels (figure 1) and will be reevaluated next month when slice data through November from *Sweetener Market Data* (SMD) becomes available, particularly given the late season rainfall during harvest in the Great Lakes region. While that rain contributed to record-high yields, it has reportedly diluted sugar content, diminished the quality of the beets going into the stockpiles, and increased the beet pile shrink.

Table 2: Beet sugar production projection calculations, 2020/21 and 2021/22

	2018/19	2019/20	2020/21	2021/22	2021/22	Monthly change
				Nov	Dec	
Area harvested (1,000 acres)	1,096	980	1,142	N/A	N/A	N/A
Yield (tons per acre)	30.4	29.2	29.4	N/A	N/A	N/A
Sugarbeet production (1,000 short tons) 1/	33,282	28,650	33,618	36,493	36,493	0
Sugarbeet shrink (percent)	5.17	5.34	6.60	6.58	6.58	0
Sugarbeet sliced (1,000 short tons)	31,561	27,072	31,399	34,091	33,956	-135
Sugar extraction rate from slice (percent)	14.77	14.14	15.3	14.7	14.7	0
Sugar from beets sliced (1,000 STRV) 2/	4,660	3,828	4,818	5,010	4,991	-20
Sugar from molasses (1,000 STRV) 2/	352	341	362	360	360	0
Crop-year sugar production (1,000 STRV) 2/	5,012	4,169	5,181	5,370	5,351	-20
August-September sugar production (1,000 STRV)	655	582	765	676	676	0
August-September sugar production of subsequent crop (1,000 STRV)	582	765	676	678	678	0
Sugar from imported beets (1,000 STRV) 3/	N/A	N/A	N/A	40	40	0
Fiscal year sugar production (1,000 STRV)	4,939	4,351	5,092	5,413	5,393	-20

1/ USDA, National Agricultural Statistics Service for historical data.

2/ August-July basis.

3/ Sugar from imported beets split out for projections only, included in total once full crop-year slice is recorded.

Sugar from imported beets is incorporated into total production in historical data.

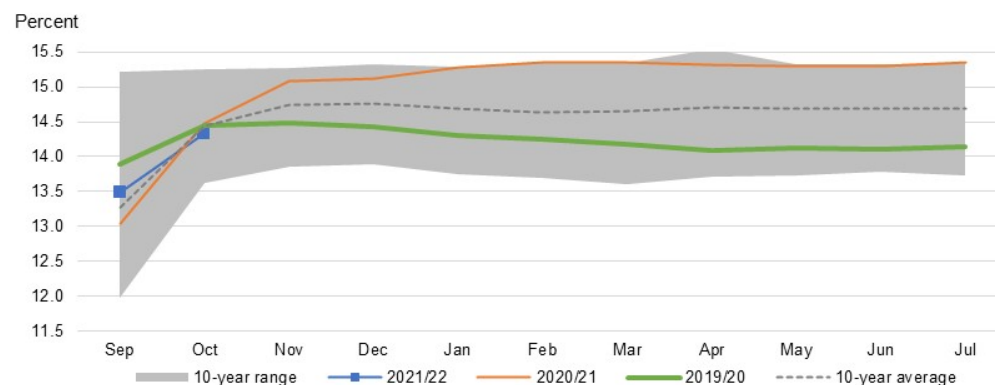
Note: STRV = short tons, raw value.

N/A = not applicable.

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

Figure 1

Cumulative sugar extraction rate, beet sugar produced per sugarbeet sliced, by crop year, 2011/12-2021/22



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

Louisiana Cane Sugar Production Lowered

Total cane sugar production is reduced for 2021/22 by 72,000 STRV to 3.847 million, with Louisiana accounting for the all the changes (table 3). Louisiana cane sugar production is decreased to 1,712 million STRV based on the NASS *Crop Production* report in December that showed sugarcane yields at 30.5 tons per acre, down 4.1 percent from last month's 31.8.

NASS revisions to Florida and Texas were minor and since these campaigns are at an early stage, cane sugar production in these states is unchanged.

Table 3: U.S. sugarcane and cane sugar production, by State, 2015/16 to 2021/22

	2017/18	2018/19	2019/20	2020/21	2021/22 November	2021/22 December	Change from November Percent
Florida							
Sugarcane harvested for sugar and seed (1,000 acres)	412.7	412.3	410.7	423.3	406.0	406.0	0.0
Sugarcane harvested for sugar (1,000 acres)	397.0	397.0	397.0	409.0	390.5	390.5	0.0
Sugarcane yield (short tons per acre)	40.9	41.7	42.8	44.4	42.7	42.7	0.0
Sugarcane production (1,000 short tons)	16,237	16,555	16,992	18,078.0	16,673	16,673	0.0
Recovery rate (percent)	12.2	12.1	12.4	11.6	12.0	12.0	0.0
Sugar production (1,000 STRV)	1,983	2,005	2,106	2,088.8	2,005	2,005	0.0
Louisiana							
Sugarcane harvested for sugar and seed (1,000 acres)	449.6	448.5	469.0	488.4	490.0	490.0	0.0
Sugarcane harvested for sugar (1,000 acres)	414.0	425.0	442.0	461.0	467.6	467.6	0.0
Sugarcane yield (short tons per acre)	32.5	35.3	27.7	32.9	31.8	30.5	-4.1
Sugarcane production (1,000 short tons)	13,455	15,003	12,243	15,167	14,871	14,263	-4.1
Recovery rate (percent)	13.86	12.51	12.73	13.02	11.78	11.78	0.0
Crop year sugar production (1,000 STRV) 1/	1,865	1,876	1,558	1,975	1,752	1,680	-4.1
Fiscal year sugar production (1,000 STRV) 1/	1,862	1,907	1,566	1,916	1,784	1,712	-4.1
Texas							
Sugarcane harvested for sugar and seed (1,000 acres)	41.8	38.9	33.5	35.9	36.0	36.0	0.0
Sugarcane harvested for sugar (1,000 acres)	40.5	37.6	31.3	33.5	33.6	33.6	0.0
Sugarcane yield (short tons per acre)	36.8	36.6	33.6	34.0	32.8	32.8	0.0
Sugarcane production (1,000 short tons)	1,490	1,376	1,052	1,139.0	1,103	1,103	0.0
Recovery rate (percent)	10.1	11.3	10.7	11.7	11.8	11.8	0.0
Sugar production (1,000 STRV)	169	147	126	133.5	130	130	0.0
United States							
Sugarcane harvested for sugar and seed (1,000 acres)	904.1	899.7	913.2	947.6	932.0	932.0	0.0
Sugarcane harvested for sugar (1,000 acres)	859.6	859.6	870.3	903.5	891.7	891.7	0.0
Sugarcane yield (short tons per acre)	36.6	38.3	34.8	38.1	36.6	35.9	-1.9
Sugarcane production (1,000 short tons)	31,182	32,934	30,287	34,384	32,647	32,039	-1.9
Recovery rate (percent)	12.9	12.3	12.5	12.2	11.9	11.9	0.0
Sugar production (1,000 STRV)	4,014	4,060	3,798	4,139	3,919	3,847	-1.9

Note: STRV = short tons, raw value.

1/ Louisiana's harvest and processing of sugarcane begins typically in September, thus the crop year and fiscal year sugar production for this State tend to be slightly different. Fiscal year production is the final value used for official USDA estimates. For Florida and Texas, the crop year is the same as the fiscal year.

Source: USDA, Farm Service Agency; USDA, National Agricultural Statistics Service; USDA, World Agricultural Outlook Board.

Imports from Mexico Lowered, Offset by Larger High-Tier Imports

Imports for 2021/22 are increased by 30,812 STRV to 3,076 million as a larger estimate for high-tier tariff imports offsets the reduction in imports from Mexico. There are no changes to the rest of the import categories.

Imports from Mexico are projected to total 1.065 million STRV—a 19,200-STRV decrease from the previous month. The U.S. Needs formula yields 1.052 million STRV based on the 13.5 percent stocks-to-use ratio as specified in the suspension agreements between U.S.

Department of Commerce (DOC) and the Government of Mexico. Added to the calculated U.S. Needs is the 12,800 STRV from the 2020/21 Mexico export allocation that DOC granted entry to the U.S. after September 30.

On November 23, 2021, upon the request of the U.S. Department of Agriculture, DOC raised Mexico's Export Limit by 150,000 STRV of "Other Sugar," with a polarity of less than 99.2 degrees as produced and measured on a dry basis, to be exported no later than March 31, 2022. Given that the September 2021 Export Limit is 70 percent of U.S. Needs ($1,083,900 \text{ STRV} \times 0.7 = 758,730$), DOC established a revised "November Export Limit" of 908,730 STRV ($758,730 + 150,000$). More details about the U.S. Needs and Export Limit calculations are presented in this issue's Special Article: Trends of U.S. Sweetener Imports from Mexico.

Based on the terms of the suspension agreements, it is expected that later this month DOC will calculate a Target Quantity of U.S. Needs based on the December *WASDE*. Because the Export Limit was increased on November 23, in between the September and December Export Limit calculations, DOC has identified two scenarios, each with two possible outcomes, that may affect the December calculation. Citing the novelty that these scenarios present in terms of calculation methodology and the lack of explicit text in the agreements for guidance, DOC solicited comments from interested parties for consideration by 5:00 p.m. on December 14.¹

The scenarios and outcomes listed by DOC are:

Scenario 1: "Following the November 2021 increase in the Export Limit, the December Export Limit calculation may result in a quantity that is less than the September Export Limit."

¹ The letter asking for comments can be viewed on the Department of Commerce ACCESS website.

Scenario 1-Outcome 1: “If the calculated December Export Limit is less than the September Export Limit or less than the revised November Export Limit, DOC may maintain the Export Limit at the level set by the revised November Export Limit.”

Scenario 1-Outcome 2: “If the calculated December Export Limit is less than the September Export Limit, DOC may decrease the Export Limit from the revised November Export Limit to the amount of the September Export Limit.”

Scenario 2: “Following the November 2021 increase in the Export Limit, the December Export Limit calculation may result in a quantity that is higher than the September Export Limit but less than the revised Export Limit issued in November 2021.”

Scenario 2-Outcome 1: “If the calculated December Export Limit is less than the September Export Limit or less than the revised November Export Limit, DOC may maintain the Export Limit at the level set by the revised November Export Limit”. This is similar with Scenario 1-Outcome 1.

Scenario 2-Outcome 2: “If the calculated December Export Limit is less than the revised November Export Limit, DOC may decrease the Export Limit from the revised November Export Limit to the amount of the December Export Limit.”

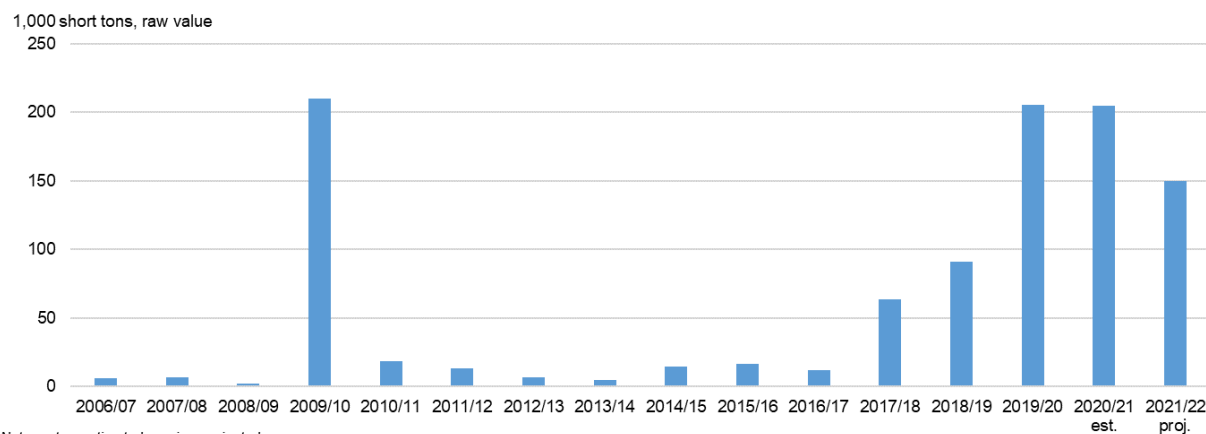
Imports of High-Tier Sugar Raised on Strong Pace

After last month’s 25,000-STRV increase, high-tier tariff imports this month are further raised by 50,000 STRV to 150,000 based on increased pace of actual entries through the beginning of December, a projection of an average monthly pace for refined high-tier imports, and the price spread between U.S. and world sugar futures’ prices (figure 2). Based on data from U.S. Customs, 62,493 STRV of high-tier sugar imports have entered from October 1 to December 3, including a December bulk shipment of raw sugar by a large U.S. refiner. As with the October entry, the raw sugar cargo is of Brazilian origin.

The last time that the United States imported any significant quantity of high-tier raw sugar was in 2010.

Starting with 2021/22 data, the USDA’s Foreign Agricultural Service has included a new table in its *Sugar Monthly Import and Re-Export Data* report that shows high-tier tariff imports by district ports and by country of origin.²

Figure 2
U.S. imports of high-tier tariff sugar, 2006/07 to 2021/22



Note: est. = estimated; proj. = projected.
Sources: USDA, Foreign Agricultural Service; U.S. Department of Commerce, Bureau of the Census.

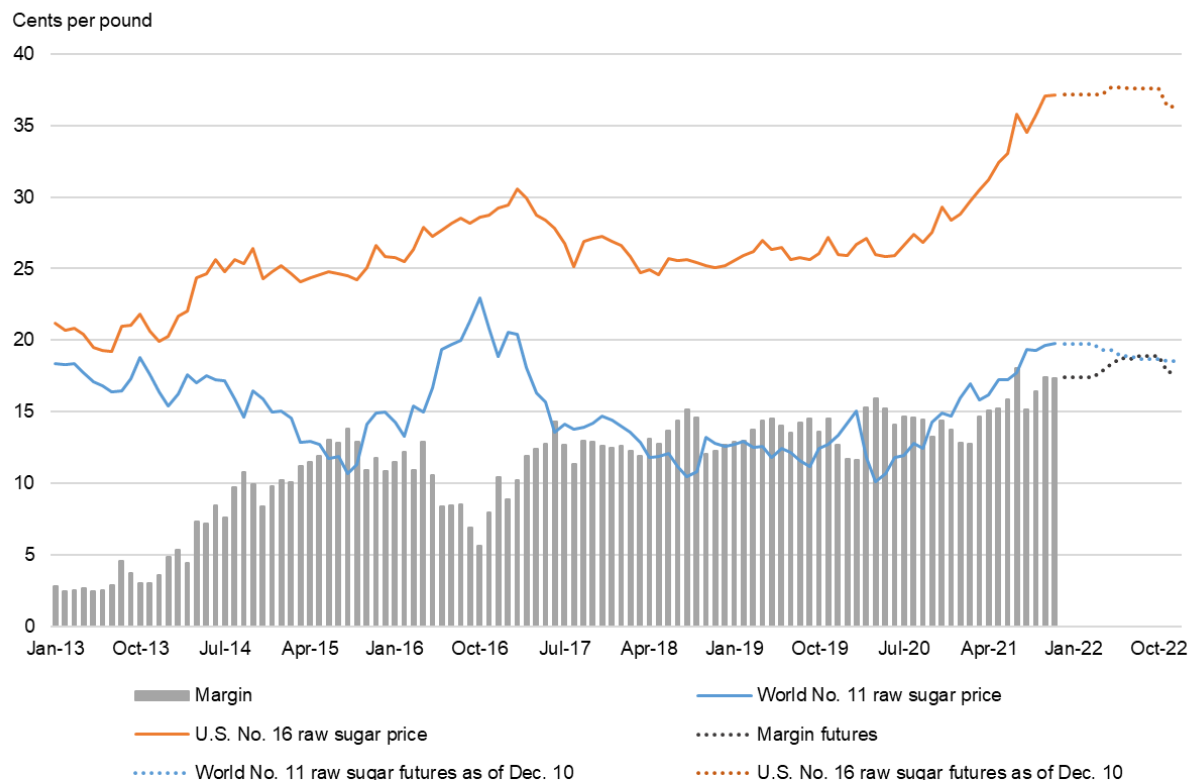
The price differential between the U.S. and world sugar futures in the past few months has been conducive for traders and commercial users to complete transactions at profitable levels for the high-duty imports. (figures 3 and 4). U.S. refined and raw cane sugar prices are significantly above levels in recent years, with Midwest refined beet sugar between 6 to 10 cents per pound higher than at the same time last year. Should U.S. prices stay at these levels, any declines in world sugar prices could be the determining factor in the amount of high-tier duty imports. Note that for raw sugar, the tariff is set at 33.87 cents per kilogram (15.36 cents per pound); for refined sugar, it is set at 35.74 cents per kilogram (16.21 cents per pound). Depending upon the country of origin, the usual cost of freight and associated logistics can be as low as 2-4 cents per pound for raw sugar, and 5-6 cents per pound for refined sugar.

The world No. 11 and U.S. No. 16 nearby raw sugar futures contract on the Intercontinental Exchange, Inc. (ICE) for November averaged 19.75 and 37.12 cents per pound, respectively, resulting in a 17.37-cent-per-pound margin. Adding the U.S. duty on raw sugar of 15.36 cents per pound on the No. 11 would result in a duty-paid base price of 35.11 cents per pound — about 2 cents per pound lower than the No.16 — to which would be added transportation and logistics costs. While the U.S. raw sugar price in the nearby months of January and March 2022 eased following the November 23, 2021 DOC increase of Mexico’s Export Limit, which requires

² Available online from the USDA, Foreign Agricultural Service sugar data website.

the additional sugar be shipped into the U.S. by March 2022, the No. 16 futures prices out to September 2022 remain near contract highs (figure 3). With the recent decline in the world No. 11 in the out months, the margin vis-à-vis the U.S. No. 16 has been close to 19 cents per pound — almost equal to the March No. 11 futures level — between August to October 2022.

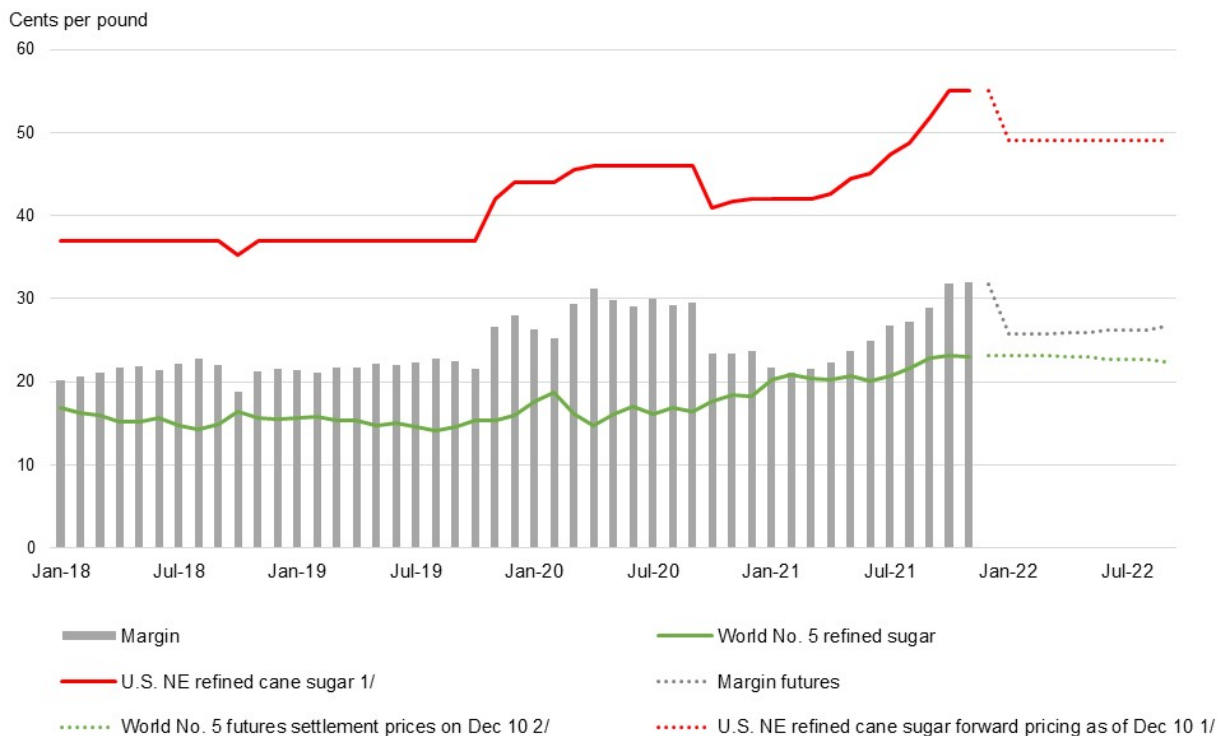
Figure 3
Monthly U.S. and world raw sugar prices and margin, January 2013 to December 2022



Note: Futures settlement prices as of December 10, 2021.
 Source: Intercontinental Exchange, Inc.

The margin between the U.S. refined cane sugar price in the Northeast and the world No. 5 refined sugar price averaged 31.95 cents per pound in November (figure 4), up from 31.85 cents in October — the highest since January 2018. The margin starting January 2022, although lower, is around 26 cents through next October, which is about 10 cents above the high-tier import duty of 16.3 cents per pound for refined sugar.

Figure 4
Monthly U.S. refined cane sugar and world refined sugar prices and margin, January 2018 to October 2022



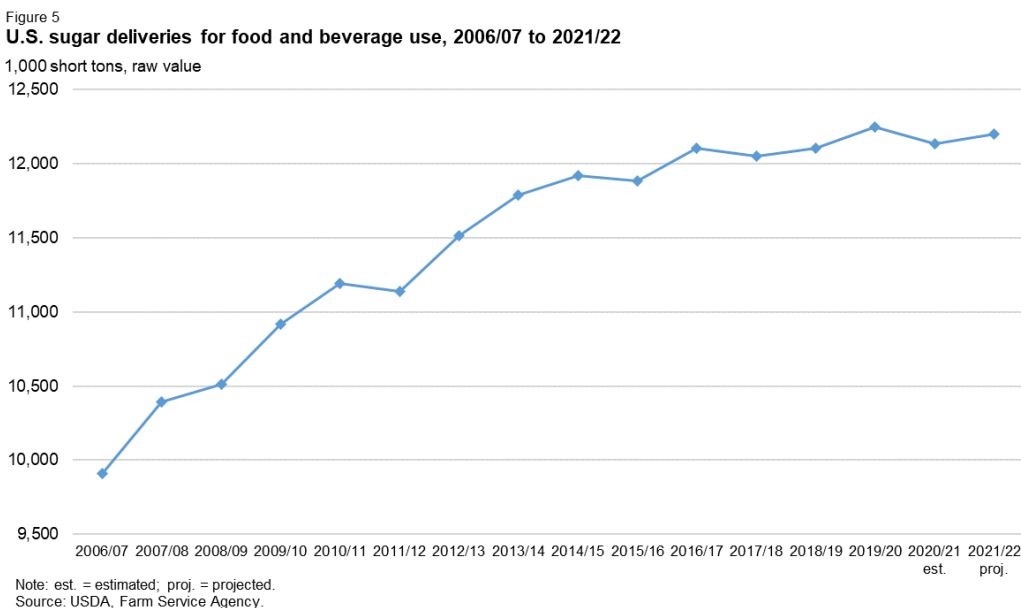
Note: Data on U.S. Northeast refined cane sugar are only available starting January 2018.
 NE = Northeast.
 1/ Northeast refined cane sugar and future price as quoted in *Milling and Baking News*.
 2/ Nearby futures, No. 5 contract, Intercontinental Exchange Inc., and futures price settlements on October 29 out to September 2022.
 Sources: *Milling and Baking News*; Intercontinental Exchange, Inc. (ICE).

Deliveries for Food and Beverage Use Increased in 2020/21; Unchanged in 2021/22

Total deliveries for domestic use in 2020/21 are revised upward by 26,018 STRV to 12.135 million based on import data corrections in the *Sweetener Market Data (SMD)* report. A cane refiner reduced its raw sugar imports for August by 26,295 STRV and total imports were slightly lowered by 277 STRV based on U.S. Bureau of the Census trade data. The net result is a 26,018-STRV increase in Direct Consumption Imports, a component of the deliveries for food and beverage use (table 1).

The 2021/22 total deliveries of 12.305 million STRV, including the projected 12.200 million STRV for domestic deliveries for food and beverage use, is unchanged from the November *WASDE*. With the 2020/21 correction, the forecast indicates an increase of 0.5 percent from the previous year's food and beverage use (figure 5). Industry sources, including the *Sosland*

Sweetener Report, have noted that the costly and oftentimes undependable truck and ocean freight, along with shortages in labor and packing materials, continue to pose challenges for sugar sellers and buyers.

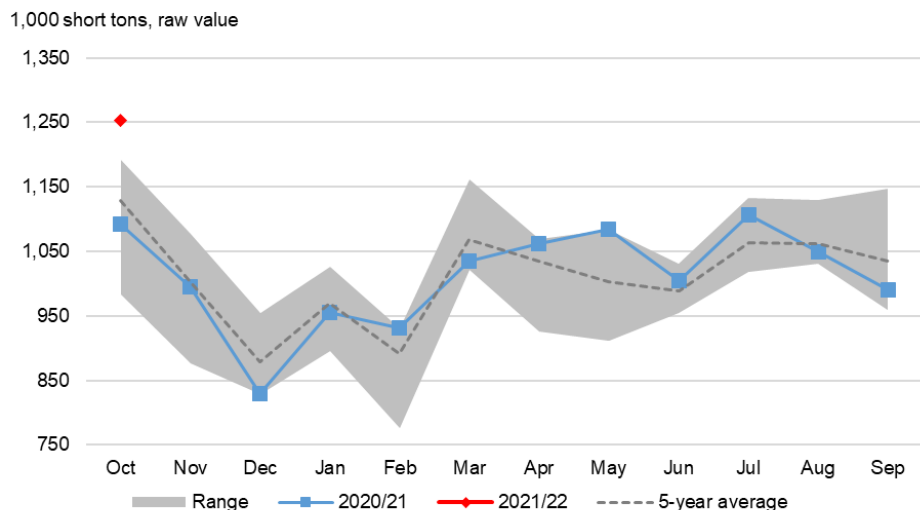


Sugar deliveries from beet sugar processors, cane sugar refiners, and non-reporters are all up from last year (table 4). Deliveries from beet processors in October totaled 481,000 STRV, which is 4 percent higher than last year and the third largest volume for the sector in October. Just as notable, deliveries by cane refiners for the month totaled 592,000 STRV, which almost matches the October record of 596,000 set in 2018. This is supported by the record-high cane refineries' melt in October, which is 9 percent higher than the 10-year October average and almost 2 percent higher than the previous record set in October 2018 (figure 7). The strong October showing seems to make up for the last month's relatively weak cane sugar deliveries (the lowest since 2011/12) and may include deferred deliveries in the aftermath of Hurricane Ida that hit Louisiana in August and caused complications to refinery operations and disrupted deliveries to food and beverage manufacturers.

Imports by non-reporters — those not required to submit monthly reports to USDA --- are assumed to have been delivered immediately. These Direct Consumption Imports were 180,000 STRV in October, up 141 percent over last year and the largest for the month in the last five years. Non-reporter deliveries are calculated as a residual of data from several different sources and the timing of an import record by the different parties can result in large swings of this number. For example, if a vessel of 20,000 tons was recorded by U.S. Customs (and thus

USDA/FAS) on the last day of the current month but reported by the refiner to USDA/FSA SMD in the next month, then Non-reporter deliveries would appear to be 20,000 tons larger in the current month than the actual number. Historically, this variable has undergone significant revisions and will be closely monitored in the next months.

Figure 6
Total U.S. sugar deliveries, monthly, 2016/17 to 2021/22



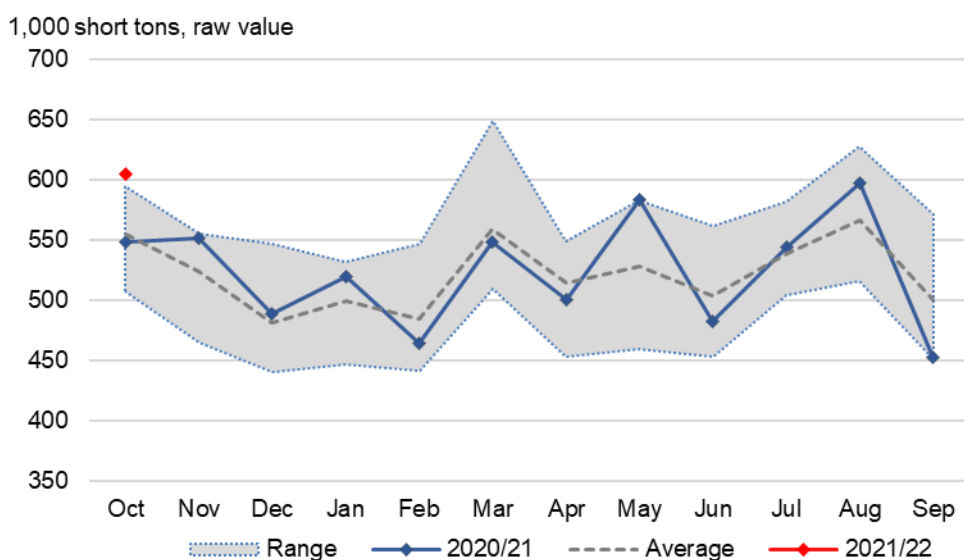
Source: USDA, Farm Service Agency.

Table 4: Food and beverage deliveries, 2016/17 to 2021/22, October

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Annual change
	1,000 short tons, raw value							Percent
Beet sugar processors	376	456	518	473	501	462	481	4.0
Cane sugar refiners	548	551	538	596	547	555	592	6.5
Total reporters	924	1,007	1,056	1,069	1,048	1,018	1,072	5.4
Non-reporter, direct consumption	59	23	117	89	145	75	180	141.0
Total October	983	1,031	1,174	1,158	1,193	1,092	1,252	14.6

Source: USDA, Farm Service Agency.

Figure 7
Sugarcane refiners' melt, monthly, 2011/12 to 2021/22



Note: Melt = quantity of raw sugar processed.
 Source: USDA, Farm Service Agency.

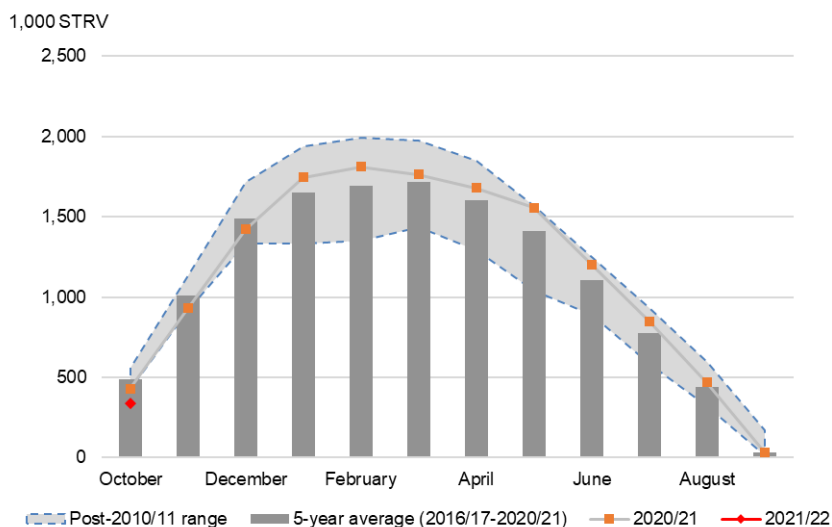
Ending Stocks Revised for 2020/21 and Reduced for 2021/22 on December Calculation of U.S. Needs

The 26,000-STRV upward correction to 2020/21 total sugar deliveries has reduced the ending stocks by a like amount to 1.700 million STRV. The net effect is a revised stocks-to-use ratio of 13.8 percent, which is down 0.3 percentage points compared with last month (table 1).

The 2021/22 ending stocks are reduced by 87,000 STRV to 1.678 million. Given no changes in domestic use, this stock level is equal to the U.S. Needs in accordance with 13.5 percent stocks-to-use ratio as specified in the suspension agreements (1.666 million STRV), plus the additional 12,800 STRV from the 2020/21 Mexico export allocation that DOC granted entry to the U.S. after September 30. The net result is a stocks-to-use ratio of 13.6 percent.

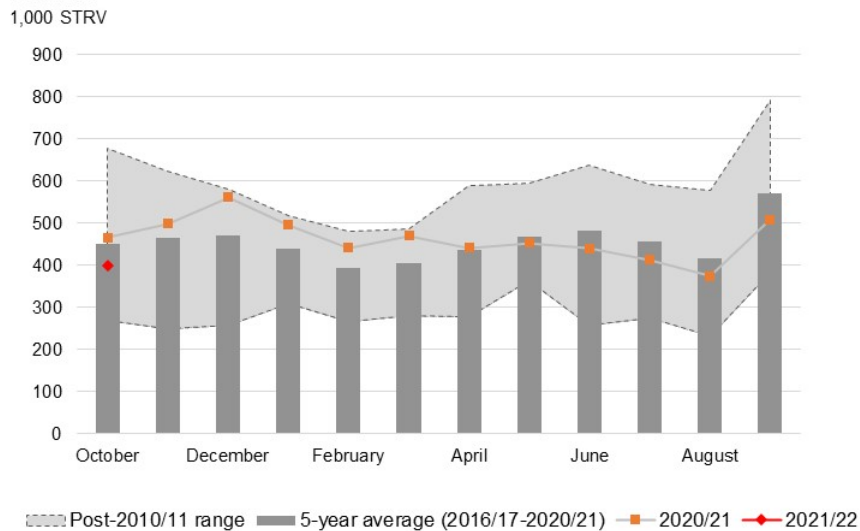
With the record-high melt rate in October, the combined raw sugar inventories — held by sugarcane processors and cane refiners — for the month are about 200,000 STRV lower than the five-year average for the month (figures 8 and 9). Refined sugar inventories held by beet processors and cane refiners in October, although lower than the previous year, are more in line with average (figures 10 and 11).

Figure 8
Sugarcane processors' raw sugar inventories, monthly, 2015/16 to 2021/22



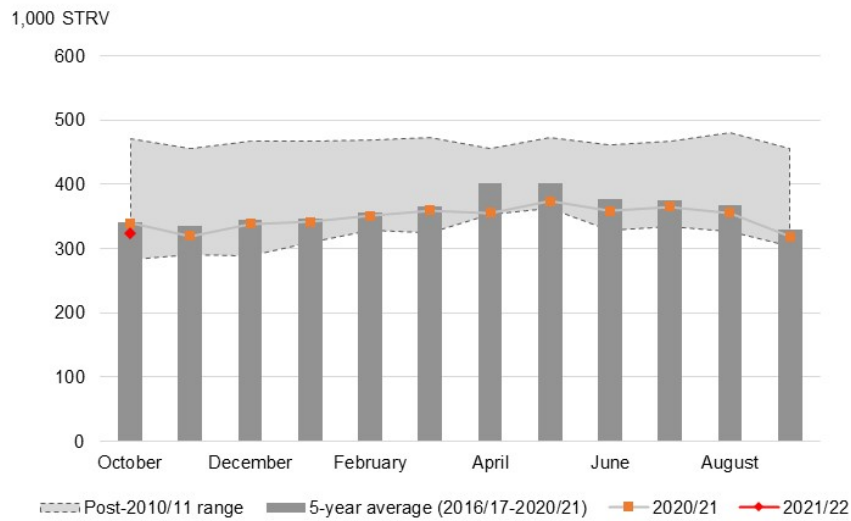
Note: STRV = short tons, raw value.
 Source: USDA, Farm Service Agency.

Figure 9
Sugarcane refiners' raw sugar inventories, monthly, 2015/16 to 2021/22



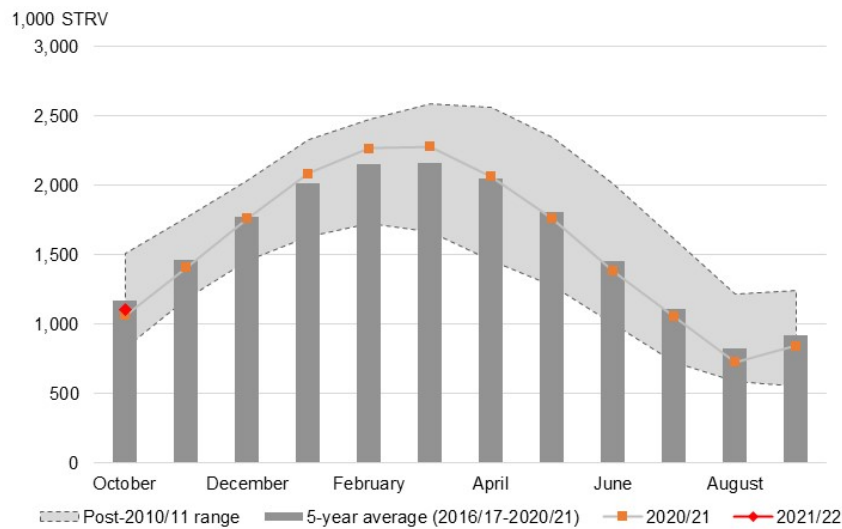
Note: STRV = short tons, raw value.
 Source: USDA, Farm Service Agency.

Figure 10
Sugarcane refiners' refined sugar inventories, monthly, 2015/16 to 2021/22



Note: STRV = short tons, raw value.
 Source: USDA, Farm Service Agency.

Figure 11
Sugarbeet processors' total sugar inventories, monthly, 2015/16 to 2021/22



Note: STRV = short tons, raw value.
 Source: USDA, Farm Service Agency.

Mexico Outlook

Exports to the U.S. Lowered Per the December Calculation of U.S. Needs

Mexico's 2021/22 total sugar supply of 7.095 million metric tons actual value (MT) is unchanged from the previous month's forecast (table 5). Total use, projected at 6.178 million MT, is also the same as last month. The only change to the Mexico balance sheet for December is the quantity of exports to the U.S., which was lowered by 16,400 MT in accordance with the suspension agreements. The reduction is offset by increased exports to other countries, thus total exports are unchanged at 1.777 million MT.

With the Mexican sugarcane harvest in early stages, the outlook for domestic production stays at 5.979 million MT, about 500,000 less than the National Committee for the Sustainable Development of Sugar Cane's (CONADESUCA) first official production forecast of 6.11 million MT, released on October 21, based on surveys of Mexican mills. The main difference is factory yield expectations. CONADESUCA's December 5 report shows that except for extraction rate, sugar production and the rest of the attributes lag the 2017/18 to 2020/21 average for the same period. The USDA, Foreign Agricultural Service Mexico City Post indicated that late rains have delayed harvest and crushing in some regions, but the delays are not expected to affect final production. In addition, the Mexico sugarcane campaign is still in its early stages, with only 29 of the 49 sugar mills beginning operation for the year. The main part of the Mexican sugarcane harvest season usually begins after the Christmas and New Year holidays. The Mexico City Post reports that Mexican officials believe the recent DOC announcement of additional 150,000 of raw sugar (<99.2 polarity) that USDA requested can be filled without difficulty.

(The Special Article section later in this report discusses a history of U.S. imports of Mexican sugar and the U.S. Needs and Export Limit calculations.)

Domestic sugar deliveries for human consumption in 2021/22 are 3.915 million MT, unchanged from last month but 55,000 lower than last year, continuing the declining trend of the past several years (figure 11). The same declining trend is observed in high-fructose corn syrup (HFCS) deliveries. The front-of-pack labeling laws that require negative messaging about sugar that were instituted in October 2020 have resulted in soda companies reducing their use of HFCS. Both per capita and total sweetener consumption have trended downward since 2016/17 and this trend is expected to continue in 2021/22 (figure 12).

Table 5: Mexico sugar: supply and use by fiscal year (October/September), December 2021

Items	2019/20	2020/21		Monthly change	2021/22		Monthly change
		(estimate) November	(estimate) December		(forecast) November	(forecast) December	
	1,000 metric tons, actual weight						
Beginning stocks	1,169	858	858	0	1,053	1,053	0
Production	5,278	5,715	5,715	0	5,979	5,979	0
Imports	77	65	65	0	63	63	0
Imports for consumption	55	32	32	0	28	28	0
Imports for sugar-containing product exports, IMMEX 1/	23	33	33	0	35	35	0
Total supply	6,524	6,638	6,638	0	7,095	7,095	0
Disappearance				0			0
Human consumption	4,101	3,935	3,935	0	3,915	3,915	0
For sugar-containing product exports (IMMEX)	352	485	485	0	486	486	0
Other deliveries and end-of-year statistical adjustment	1						
Total	4,455	4,420	4,420	0	4,401	4,401	0
Exports	1,212	1,165	1,165	0	1,777	1,777	0
Exports to the United States and Puerto Rico	1,177	828	828	0	928	911	-16
Exports to other countries	35	337	337	0	850	866	16
Total use	5,667	5,585	5,585	0	6,178	6,178	0
Ending stocks	858	1,053	1,053	0	917	917	0
Stocks-to-human consumption (percent)	20.9	26.8	26.8	0	23.4	23.4	0
Stocks-to-use (percent)	15.1	18.9	18.9	0	14.8	14.8	0
High-fructose corn syrup (HFCS) consumption (dry weight)	1,388	1,320	1,320	0	1,310	1,310	0

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

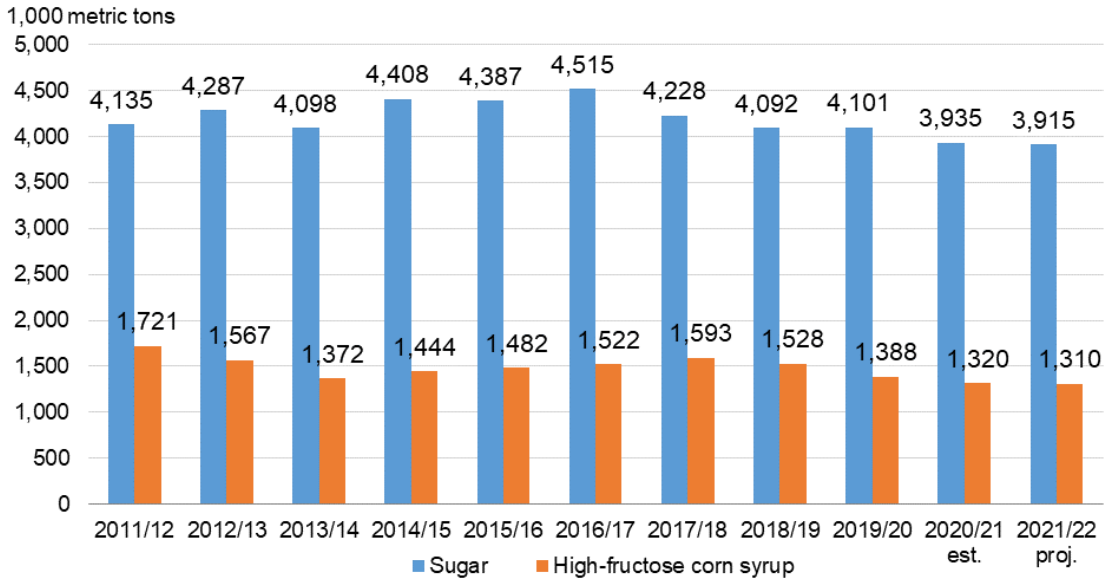
Sources: USDA, World Agricultural Outlook Board; USDA, Economic Research Service; Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Table 6: Mexico sugar production as of week 5

	Week 5		Difference	
	Average (2017/18-2020/21)	2021/22	Level	Percent
Area harvested (hectares)	35,473	15,120	-20,353	-57
Sugarcane processed (metric tons)	2,877,398	1,206,429	-1,670,969	-58
Sugarcane yields (metric tons per hectare)	82.03	79.79	-2.24	-3
Number of mills in operation	33	29	-4	-13
Extraction rate (percent)	8.73	8.89	0.16	2
Total factory yield (metric tons sugar per hectare)	7.16	7.09	-0.07	-1
Sugar production (metric tons)	119,755	107,263	-12,492	-10

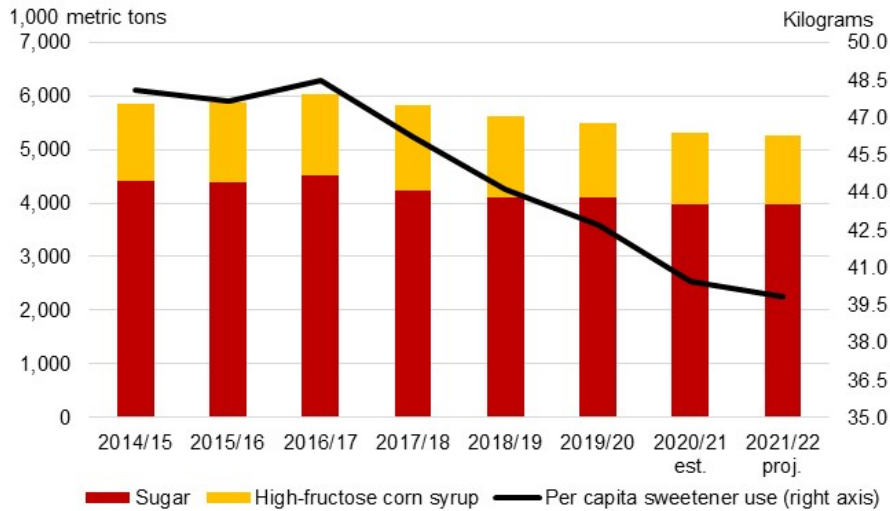
Sources: USDA, Economic Research Service calculations using data from Mexico's National for the Committee Sustainable Development of Sugarcane (CONADESUCA).

Figure 11
Mexican sweetener consumption, October to September, 2011/12 to 2020/21



Note: est. = estimated; proj. = projected.
 Source: Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Figure 12
Mexican sweetener consumption by year, 2014/15–2021/22



Note: est. = estimated; proj. = projected.
 Source: USDA, World Agricultural Outlook Board.

U.S. Department of Justice Sues to Block Proposed Merger of Sugar Companies

On November 23, 2021, the U.S. Department of Justice filed a civil antitrust lawsuit to block the proposed acquisition of Imperial Sugar Company (Imperial) by the United States Sugar Corporation (U.S. Sugar). The proposed acquisition was announced on March 24, 2021. U.S. Sugar grows sugarcane and operates a sugarcane milling as well as a cane sugar refining facility in Clewiston, Florida. Imperial operates a cane sugar refining facility in Savannah Georgia, as well as an intermediate sugar transfer and liquification facility in Ludlow, Kentucky.

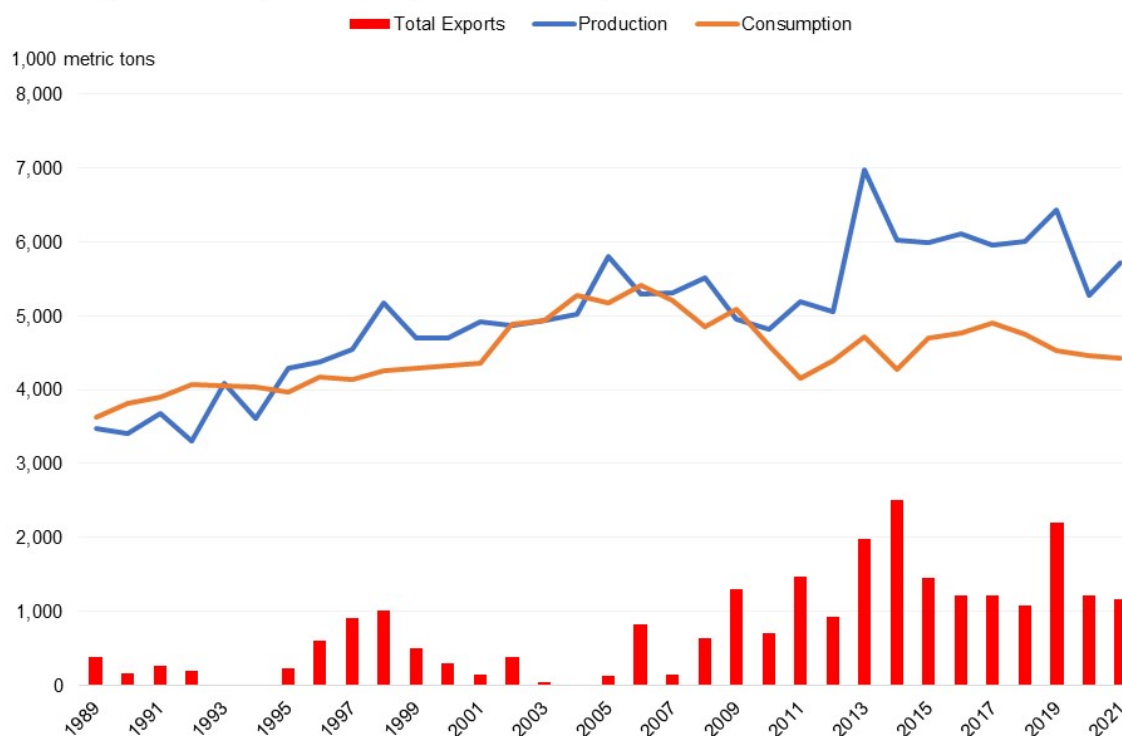
According to the companies, the acquisition will (1) facilitate modernization of the Savannah refinery, (2) reduce Imperial's reliance on imported raw sugar in favor of domestic suppliers, and (3) provide production, logistic and supply chain synergies, and efficiencies. As a result, the combined entity will better be able to service customer needs, benefiting the companies, the affiliated growers, and customers alike. The Department of Justice argues that the proposed acquisition, if allowed, will be anti-competitive because it will leave only two companies as the primary suppliers of refined sugar in the Southeast region of the country, lessening competition and raising prices to customers. The trial is currently scheduled to begin the week of April 11, 2022 according to the date established by the presiding judge.

USDA has no role in the approval process for the proposed acquisition and will not opine on either the merits of the proposed acquisition or the DOJ's antitrust concerns and civil lawsuit.

Special Article: Trends of U.S. Sweetener Imports from Mexico

Mexico historically produced a variable but modest surplus of sugar. In 1997 and 1998 total exports reached about 1 million metric tons (MT) (figure 13). Over the next decade, exports declined as sugar consumption rose with population and income growth while production stagnated. A major change in the trade relationship occurred when Mexico and the United States fully implemented the sugar provisions of the North American Free Trade Agreement (NAFTA) in 2008. Under the fully-implemented NAFTA, trade in sugar and high fructose corn syrup (HFCS) between the United States and Mexico was duty-free, quota-free, and this remains the case under the United States-Mexico-Canada Agreement (USMCA) agreement that replaced NAFTA in 2020. The next major change was the implementation of agreements in 2014 under which the United States agreed to suspend the imposition of prohibitive anti-dumping and countervailing (AD/CVD) duties on sugar from Mexico.

Figure 13
Mexico sugar production, consumption, and total exports, 1988/89–2020/21



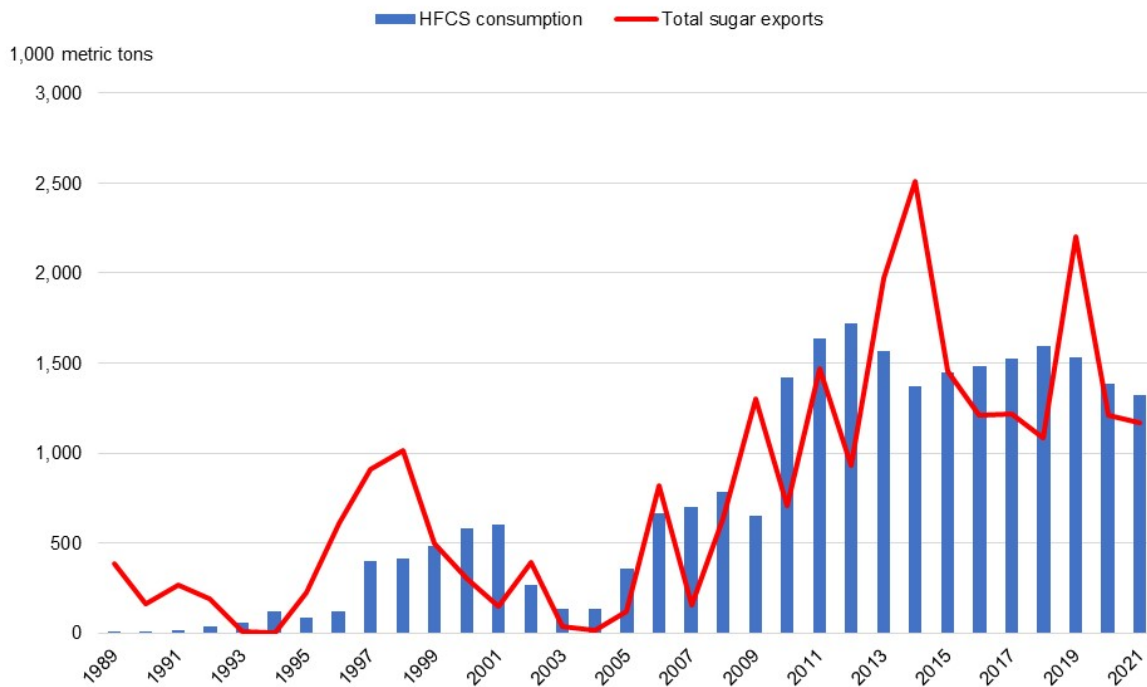
Note: Data based on an October to September year.
 Source: USDA, Foreign Agricultural Service.

The amount of Mexican sugar available for export depends upon Mexican sugar consumption, which in turn is affected by HFCS consumption. Before NAFTA came into effect in 1994,

Mexican consumption of HFCS was essentially zero. HFCS is preferred by beverage and soft drink manufacturers in North America due to both to its functional characteristics and lower price than sugar. In the United States, HFCS achieved almost 100 percent of the market for soft drink and beverage caloric sweeteners; once NAFTA was signed many expected a similar opportunity for HFCS in Mexico.

Under NAFTA, sugar duties between the United States and Mexico were phased out over 15 years, but duties on corn were phased out over 10 years. U.S. HFCS producers established manufacturing facilities in Mexico soon after NAFTA took effect in 1994, with a capacity of about 500,000 metric tons dry basis, and likewise saw opportunities to increase exports to Mexico, particularly when the duties went to zero in 2003. For a few years after 1994, Mexican consumption of HFCS increased (figure 14) primarily due to the local production from the newly built U.S.-owned corn wet-milling facilities. When the United States and Mexico did not agree on how the NAFTA sugar provisions should be implemented, and when the United States restricted Mexico sugar access to levels below what Mexico believed it was owed, Mexico imposed restrictions on both imports of U.S. HFCS and the locally produced HFCS. From 2002 to 2005, with less domestic HFCS consumption, Mexico sugar exports were much lower than would otherwise have been the case, due to the increased domestic sugar consumption required to replace the loss of HFCS. As figure 14 illustrates, the annual quantities of Mexico sugar exports and its HFCS consumption are at similar levels and strongly correlated.

Figure 14
Mexico HFCS consumption and total sugar exports, 1988/89–2020/21

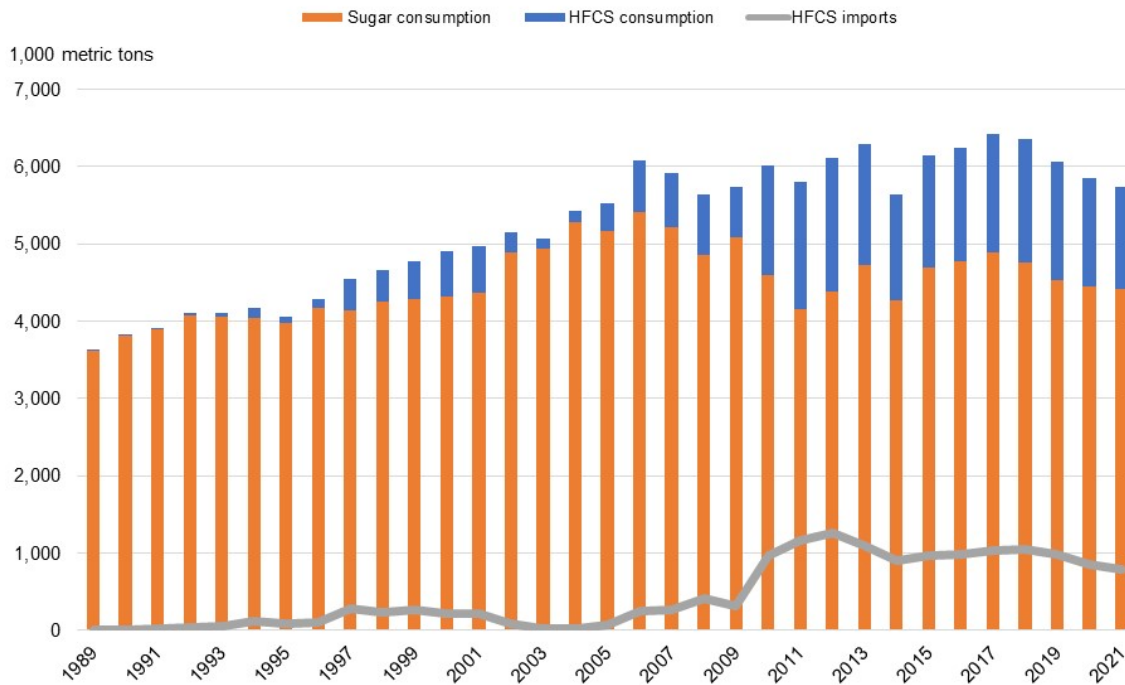


Note: Data based on an October to September year; HFCS = high fructose corn syrup.
 Source: USDA, Foreign Agricultural Service.

As the Mexican economy and population grew in the 1990s and early 2000s, so did the total consumption of caloric sweeteners (figure 15). Sugar consumption peaked at about 5.4 million MT in 2006, but total caloric sweetener consumption increased until 2017, peaking at 6.4 million tons, comprised of 1.5 million of HFCS and 4.9 million of sugar.

Figure 15

Mexico sugar and HFCS consumption and HFCS imports, 1988/89–2020/21



Note: Data based on an October to September year; HFCS = high fructose corn syrup.
Source: USDA, Foreign Agricultural Service.

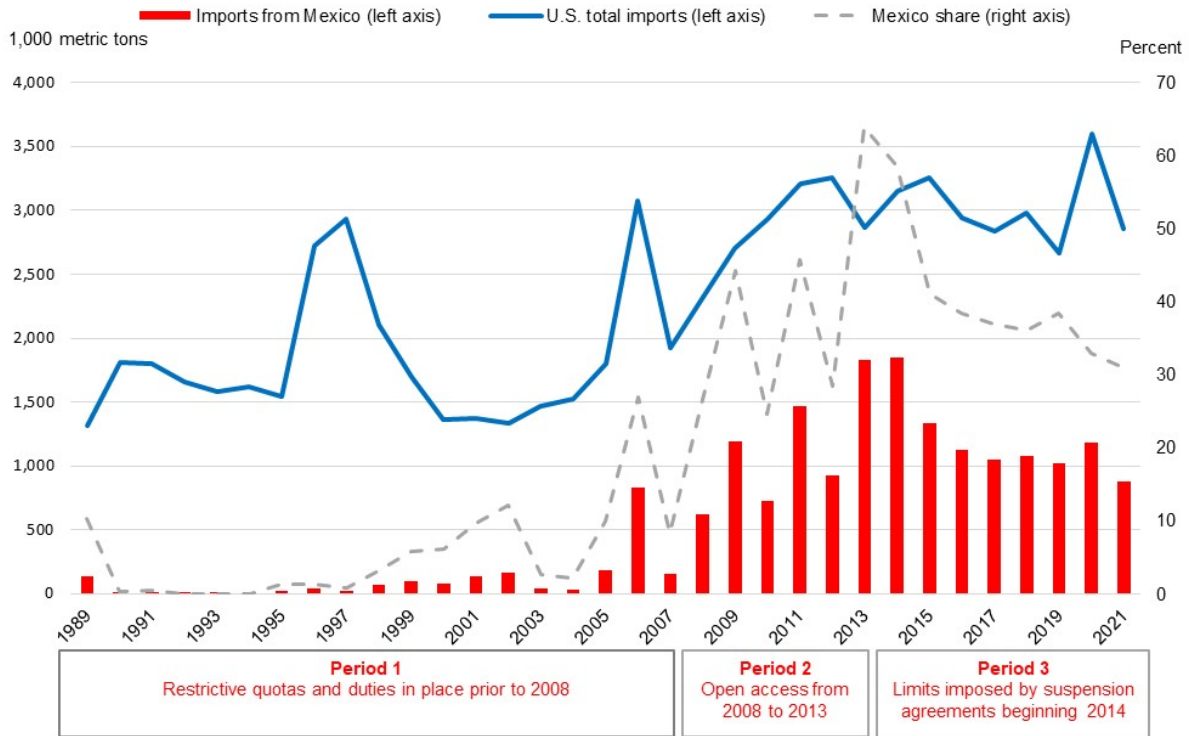
Three periods can be identified regarding the conditions of access that applied to U.S. sugar imports from Mexico (figure 16). During Period 1, which lasted until 1996, imports were a relatively insignificant share of total U.S. imports, and were largely limited to the share allocated to Mexico under the U.S. World Trade Organization raw and refined sugar tariff-rate quotas. In July 2006, increased access was negotiated during a phase-in period leading up to the full implementation of NAFTA, January 1, 2008.

During Period 2, which lasted from 2008 until 2013, there were no duties or quotas on U.S. imports from Mexico. Since U.S. sugar prices are more attractive than the world price, any Mexican surplus during Period 2 was shipped to the United States rather than the lower-priced world market. Mexico’s share of total U.S. imports grew sharply and peaked at 64 percent in 2013.

Period 3 began when the United States imposed AD/CVD duties on Mexico in 2014. A detailed discussion of Period 3 is provided in the subsequent section.

Figure 16

U.S. sugar imports from Mexico, U.S. total imports, and Mexico share, 1998/99 to 2020/21

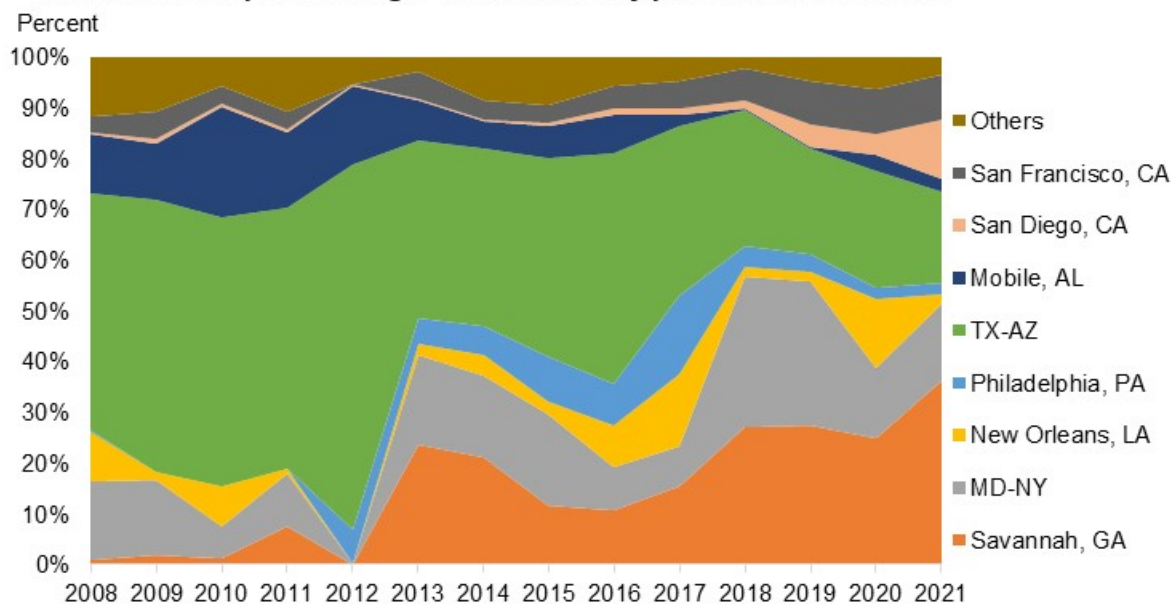


Note: Data based on an October to September year.
 Source: U.S. Department of Commerce, Bureau of the Census.

The share of U.S. imports from Mexico by U.S. port of entry is shown in figure 17. During the period from 2007/08 to 2016/17, the Texas and Arizona ports show the largest quantity of imports. These ports are limited to rail or truck entries, and would mostly have been for direct consumption, rather than further processing. The revisions to the suspension agreements which took effect in 2017/18 reduced the maximum amount of refined sugar from Mexico as a share of the total amount shipped from 53 percent to 30 percent, and required that all of the raw sugar (termed “Other Sugar” in the agreements) be shipped in bulk and freely flowing via the holds of ocean-going vessels, amongst other restrictions. The shares at several ports where imports are likely dominated by bulk entries such as Savannah, Georgia and San Francisco, California have increased since 2017/18, while the share of imports at the Texas and Arizona land border ports has declined. Another port that has increased its share in recent years is San Diego, California.

Figure 17

Share of U.S. imports of sugar from Mexico by ports, 2007/08-2020/21



Note: Data based on an October to September year; TX-AZ=Texas-Arizona; MD-NY=Maryland-New York.
Source: U.S. Department of Commerce, Bureau of the Census.

U.S. Anti-dumping and Countervailing Duties and the Suspension Agreements

In 2014, the United States and Mexico negotiated agreements that suspended U.S. anti-dumping and countervailing duties that would otherwise have been applied to U.S. imports of Mexican sugar. The agreement suspending anti-dumping duties applies to Mexican sugar producers and mainly provides for minimum prices for exports to the United States, while the agreement suspending countervailing duties provides for maximum quantities of exports to the United States. For simplicity, the term “agreements” will be used to cover the combined provisions of the two agreements.

The U.S. Department of Commerce (DOC) administers the agreements. Beginning in the 2014/15 (fiscal year 2015), any sugar imported from Mexico not in compliance could put the agreements at risk. If either party pulled out of the agreements, U.S. anti-dumping and countervailing duties would automatically be applied. Since these duties cumulatively add to about 80 percent, they would likely be prohibitive. The Mexican government and Mexican sugar producers have an incentive to maintain the agreements, as do U.S. sugar producers. It is important to note that the agreements impose conditions only on the Mexican government and Mexican sugar producers and exporters and have no effect on any other U.S. trade rules.

The agreements provide a formula to generate a quantitative limit for Mexican sugar access. First, U.S. ending stocks are estimated for the coming year based on 13.5 percent of total use. Then, all sources of supply other than Mexico (beginning stocks, production, and imports other than from Mexico) are added up. Taking the difference of the total of demand (which includes the estimated ending stocks) and all other sources of supply generates a residual which is termed U.S. Needs. This formula is calculated by DOC four times a year, based on data published in USDA's *World Agricultural Supply and Demand Estimates (WASDE)* report published in July, September, December, and March.

An Export Limit is a fixed percentage of the U.S. Needs. Since 2018, after the revision of the terms of the 2014 agreements, the Export Limit as a percent of U.S. Needs has been calculated as 50 percent in July, 70 percent in September, 80 percent in December, and 100 percent in March. To date, any Export Limit, once established, has not been reduced.

A record of the U.S. Needs and Export Limit determinations is found in table 7. The difference between U.S. Needs and the Export Limit can be a negative number, as was the case in December 2017, March 2018, March 2019, and March 2020. In these cases, the current month's Export Limit established by DOC was smaller than a subsequent calculation, and thus the previous higher Export Limit was maintained. In these circumstances, the estimated U.S. ending stocks-to-use ratio for the corresponding month will be higher than 13.5 percent.

The U.S. trade data as published by the U.S. Bureau of the Census (Census) are shown in table 7 as "Final U.S. Imports from Mexico." These are not an official record for the purposes of the agreements, because they apply to Mexican exports, not U.S. imports, and the DOC-recognized official Mexican exports data are not publicly available. The column "Difference between Final U.S. Imports and Export Limit" is shown for illustrative purposes only. Imports from Mexico can, for example, include minor amounts of some specialty sugars which are outside the scope of the agreements, and sugar under an Export License from a previous Export Limit which received a waiver from DOC to arrive in the subsequent fiscal year. Also, the data that USDA uses from Census do not indicate the polarity of any of the sugar shipments and this could lead to different results when converting the sugar to "raw value" terms as is required for records under the agreements.

Table 7. U.S.-Mexico sugar suspension agreements determination by U.S. Department of Commerce and imports from Mexico

Period	U.S. Needs 1/		Export Limit 2/		Published that month	Difference between US Needs and Export Limit 3/	U.S. imports from Mexico estimated in WASDE	Final U.S. imports from Mexico 4/	Difference between final U.S. imports and Export Limit
	Established by U.S. Department of Commerce	Percent to derive Export Limit that month	Percent of US Needs (per formula)	Increase based on USDA request					
Short tons, raw value									
2014/15									
December	1,601,940	80	1,281,552		1,281,552	320,388	1,624,000		
March	1,525,565	100	1,525,565		1,525,565	0	1,526,000	1,531,620	6,055
2015/16									
July	1,548,350	70	1,083,845		1,083,845	464,505	1,548,000		
September	1,540,350	70	1,083,845		1,083,845	456,505	1,540,000		
December	1,332,150	80	1,083,845		1,083,845	248,305	1,333,000		
March	1,298,650	100	1,298,650		1,298,650	0	1,299,000		
Increase in May				60,000	1,358,650			1,308,843	-49,807
2016/17									
July	1,371,100	70	959,770		959,770	411,330	1,371,000		
September	1,005,100	70	703,570		703,570	301,530	1,005,000		
December	705,300	80	564,240		703,570	1,730	972,000		
March	1,149,550	100	1,149,550		1,149,550	0	1,162,000		
Increase in July				103,932	1,253,482			1,205,935	-47,547
2017/18									
July	2,392,405	50	1,196,203		1,196,203	1,196,203	1,823,000		
September	1,811,905	70	1,268,334		1,268,334	543,572	1,771,000		
December	1,167,675	80	934,140		1,268,334	-100,659	1,268,000		
March	1,021,050	100	1,021,050		1,268,334	-247,284	1,269,000	1,269,483	1,149
2018/19									
July	1,655,400	50	827,700		827,700	827,700	1,655,000		
September	842,150	70	589,505		589,505	252,645	842,000		
December	1,118,175	80	894,540		894,540	223,635	1,120,000		
March	890,175	100	890,175		894,540	-4,365	897,000		
Increase in June				100,000	994,540			1,000,444	5,904
2019/20									
July	968,525	50	484,263		484,263	484,263	1,395,000		
September	1,117,900	70	782,530		782,530	335,370	1,382,000		
Increase in November				100,000					
December	1,826,775	80	1,461,420		1,461,420	365,355	1,827,000		
Increase in March				200,000	1,661,420				
March	1,932,775	100	1,932,775		1,932,775	0	1,165,000	1,375,502	-557,273
2020/21									
July	1,078,775	50	539,388		539,388	539,388	1,079,000		
September	888,150	70	621,705		621,705	266,445	888,000		
December	1,159,900	80	927,920		927,920	231,980	1,160,000		
March	737,775	100	927,920		927,920	-190,145	931,000		
Increase in April				50,000	977,920			967,874	-10,046
2021/22									
July	1,448,775	50	724,388		724,388	724,388	1,449,000		
Increase in August				17,527					
September	1,083,900	70	758,730		758,730	325,170	1,084,000		
Increase in November			150,000		908,730				
December		80					1,065,000		

Notes:

- 1/ Based on a formula in the suspension agreements, and established and published by the U.S. Department of Commerce.
- 2/ As established by the U.S. Department of Commerce.
- 3/ A negative number indicates that a previously established Export Limit was higher than the U.S. Needs for that month.
- 4/ Not an official record of shipments under any Export License in any Export Limit Period. Can include sugar under Export Licenses provided a waiver to enter in the next fiscal year.

The agreements have a provision for USDA to notify the DOC of any additional need for sugar. Since the beginning of the agreements, USDA requested DOC to increase the Export Limit eight times, and DOC granted the request each time (table 8). Except in 2019/20 when USDA requested that the additional sugar be “Refined Sugar” (polarity ≥99.2) to address the weather-reduced beet crop, USDA requested that the additional sugar be of the “Other Sugar” type (polarity <99.2 or <99.5).

Table 8. Increase in Export Limits requested by USDA

Period	Date	Amount (STRV)	Polarity
2015/16	05/18/16	60,000	<99.2
2016/17	07/21/17	28,932	<99.2
		75,000	<99.5
2018/19	06/27/19	100,000	<99.5
2019/20	11/25/19	100,000	≥99.2
	03/09/20	200,000	≥99.2
2020/21	04/30/21	50,000	<99.2
	08/26/21	17,527	<99.5
2021/22	11/23/21	150,000	<99.2

Note: STRV = short tons, raw value.

Source: U.S. Dept. of Commerce, ACCESS.

The agreements impose shipping pattern restrictions for exports of sugar to the United States which since 2018 read as follows:

- “No more than 30 percent of U.S. Needs calculated in each July and effective October 1 may be exported to the United States during the period October 1 through December 31.”
- “No more than 55 percent of U.S. Needs calculated in each September and effective January 1 may be exported to the United States during the period October 1 through March 31, unless that amount is less than or equal to the amount calculated under Section V.C.1, in which case the amount calculated under Section V.C.1 will continue to apply until March 31.”

A comparison of the Census’ U.S. imports data from October-December and October-March to the U.S. Needs calculated in July and September, respectively is shown in table 9. Note once more that the Census import data are not considered official record for the purposes of the agreements. For illustrative purposes, the trend since FY 2018 shows that the pace of Mexican imports tends to be conservative relative to the 30 percent and 55 percent threshold. The percent of imports during the October to December period relative to the U.S. Needs calculated in July is only between 2 to 7 percent, and during the October to March period is only 24 to 43 percent relative to the U.S. Needs calculated in September.

Shipping patterns of U.S. imports from Mexico, 2017/18–2020/21

	2017/18	2018/19	2019/20	2020/21
U.S. Needs in Jul. (STRV) ^{1/}	2,392,405	1,655,400	968,525	1,078,775
30 percent of U.S. Needs (STRV)	717,722	496,620	290,558	323,633
Oct. to Dec. imports (STRV) ^{2/}	56,631	74,021	66,543	34,396
Share of imports to U.S. Needs in Jul. (percent)	2.4	4.5	6.9	3.2
U.S. Needs in Sep. (STRV) ^{1/}	1,811,905	842,150	1,117,900	888,150
55 percent of U.S. Needs (STRV)	996,548	463,183	614,845	488,483
Oct. to Mar. imports (STRV) ^{2/}	432,994	359,437	430,040	326,224
Share of imports to U.S. Needs in Sep. (percent)	23.9	42.7	38.5	36.7

Notes:

STRV = short tons, raw value.

1/ Source: U.S. Department of Commerce, ACCESS.

2/ Source: U.S. Department of Commerce, Bureau of the Census.

Mexico has been the largest source of imported sugar for the United States since 2008. Taking the average of the last five years, the percent shares of total U.S. sugar imports are as follows: Mexico (35 percent); Brazil (13 percent); Guatemala (8 percent); Dominican Republic (6 percent); and then Colombia, Australia, and the Philippines with 4 percent each. Mexico's import share is almost three times larger than Brazil's share, and about the same as the combined shares of the next five countries. The AD/CVD duties and the agreements are revisited by the United States government every five years under a so-called "sunset review," and the conclusion of the 2019 review was to continue the duties and the agreements. So long as the agreements are in place and the (suspended) AD/CVD duties remain prohibitive were they to be applied, Mexico's access to the U.S. market will be heavily conditioned on the terms of the agreements.

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