



Sugar and Sweeteners Outlook: March 2022

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In this report:

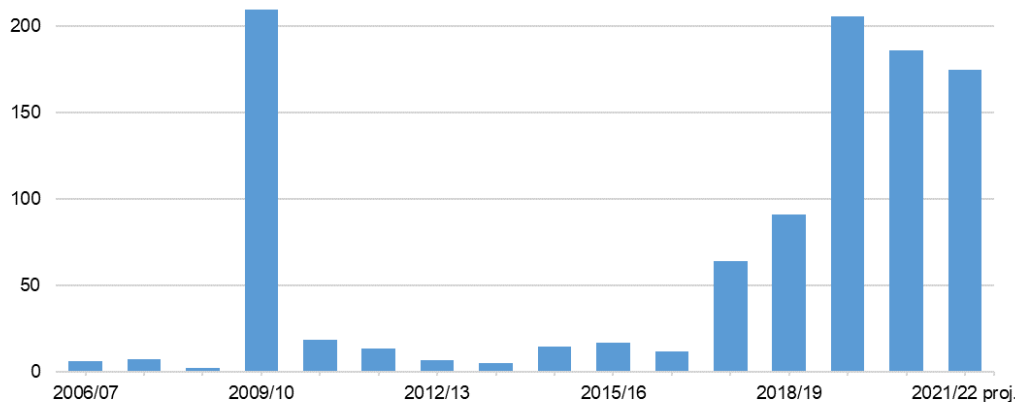
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Total Imports Raised; Still Lowest Since 2008/09

The March 2022 *World Agricultural Supply and Demand Estimates (WASDE)* publication lowered U.S. sugar ending stocks for 2021/22 on smaller supply and larger use. The reduction in domestic production is not fully countered by increased imports, which are forecast to be at the lowest level since 2008/09. High-tier imports are raised 25,000 short tons, raw value (STRV) to 175,000 on strong pace (figure 1). Per the Suspension Agreement, the Export Limit for Mexico is expected to be marginally lower than last month. The net effect is a stocks-to-use ratio of 13.6 percent, down from 14.7 percent in February. Mexican 2021/22 sugar supply and use only changed slightly.

Figure 1
U.S. imports of high-tier tariff sugar, 2006/07 to 2021/22

1,000 short tons, raw value



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

U.S. Outlook Summary

Sugar Ending Stocks Lowered

The March 2022 *World Agricultural Supply and Demand Estimates (WASDE)* publication lowered U.S. sugar ending stocks for 2021/22 to 1.692 million short tons, raw value (STRV)—126,152 less than last month—on smaller supply and larger use (table 1). The outlook for supply is down 26,152 STRV as the reduction in domestic production is not fully countered by increased imports. Beet sugar production is reduced 12,183 STRV to 5.389 million primarily on lower sucrose extraction and larger beet pile shrink reported by the processors. Florida cane sugar production is lowered 45,059 STRV to 1.960 million, also based on processor reporting which incorporated the effect of the late January freeze to the crop. Imports are up 31,091 STRV from last month to 3.043 million but would still be the lowest since 2008/09. World Trade Organization (WTO) raw sugar tariff-rate quota (TRQ) imports are increased 20,591 STRV due to a lower-than-expected shortfall, while high-tier imports are up 25,000 STRV to 175,000 on pace to date. Based on the terms of the Suspension Agreement, the Export Limit calculated by the U.S. Department of Commerce later in March is expected to be 1.037 million STRV, about 14,500 tons lower than last month's 1.052 million. Note that the *WASDE* projects a larger import number for Mexico at 1.050 million STRV due to the inclusion of 12,812 STRV that entered in October 2021 but counted against the 2020/21 Export Limit. U.S. sugar deliveries for human consumption is raised 100,000 STRV to 12.3 million on strong delivery pace for beet sugar and direct consumption imports. The net effect is a stocks-to-use ratio of 13.6 percent, which is down by 1.1 percentage points from the prior month's 14.7 percent.

Table 1: U.S. sugar: supply and use by fiscal year (October/September), March 2022

Items	2019/20	2020/21			2021/22		
		February (estimate)	March (estimate)	Monthly change	February (forecast)	March (forecast)	Monthly change
		1,000 short tons raw value					
Beginning stocks	1,783	1,618	1,618	0	1,705	1,705	0
Total production	8,149	9,234	9,234	0	9,442	9,384	-58
Beet sugar	4,351	5,092	5,092	0	5,401	5,389	-12
Cane sugar	3,798	4,142	4,142	0	4,041	3,996	-45
Florida	2,106	2,090	2,090	0	2,005	1,960	-45
Louisiana	1,566	1,918	1,918	0	1,906	1,906	0
Texas	126	134	134	0	130	130	0
Total imports	4,165	3,195	3,195	0	3,012	3,043	31
Tariff-rate quota imports	2,152	1,749	1,749	0	1,547	1,568	21
Other program imports	432	292	292	0	250	250	0
Non-program imports	1,581	1,154	1,154	0	1,215	1,225	10
Mexico	1,376	968	968	0	1,065	1,050	-15
High-duty	206	186	186	0	150	175	25
Total supply	14,097	14,046	14,046	0	14,158	14,131	-27
Total exports	61	49	49	0	35	35	0
Miscellaneous	74	40	40	0	0	0	0
Total deliveries	12,344	12,252	12,252	0	12,306	12,406	100
Domestic food and beverage use	12,246	12,135	12,135	0	12,200	12,300	100
To sugar-containing products re-export program	78	89	89	0	80	80	0
For 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
Total use	12,479	12,341	12,341	0	12,341	12,441	100
Ending stocks	1,618	1,705	1,705	0	1,817	1,690	-127
Private	1,618	1,705	1,705	0	1,678	1,678	0
Commodity Credit Corporation (CCC)	0	0	0	0	0	0	0
Stocks-to-use ratio (percent)	13.0	13.8	13.8	0.0	14.7	13.6	-1.1

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

Beet and Cane Sugar Production Lowered

Beet sugar production is reduced 12,183 STRV to 5.389 million on lower sucrose extraction and larger beet pile shrink reported by the processors on the USDA, Farm Service Agency's (FSA) *Sweetener Market Data (SMD)*. Still, if realized, this level will surpass the prior record high, for both crop year and fiscal year production, achieved in 2017/18 (table 2). The USDA's National Agricultural Statistics Service (NASS) has no update on sugar beet production data on its March *Crop Production* report. Data from the *SMD* report show that processors' sugar extraction from sliced beets through January is 14.81 percent, which is above the 10-year average (figure 2).

To date, monthly beet sugar production has been tracking the five-year average (figure 3). At this pace, the cumulative production through January of 3.535 million STRV is about 212,000 STRV lower than this time last year. This implies that only about 66 percent of the record-high

forecast for 2021/2022 crop year (5.346 million STRV) has been produced between August to January (figure 4). In contrast, 72 percent of crop year 2020/2021 total of 5.181 million STRV—a lower total output than the 2021/22 forecast—has already been produced. The 2021/22 pace is comparable to 2017/18 crop year when only 67 percent of the 5.338 million STRV was produced in the same period. Incidentally, 2017/18 crop year also saw a large sugarbeet production.

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

	2017/18	2018/19	2019/20	2020/21	2021/22	2021/22	Monthly
					Feb	Mar	change
Area harvested (1,000 acres)	1,114	1,096	980	1,142	1,108	1,108	0
Yield (tons per acre)	31.7	30.4	29.2	29.4	33.2	33.2	0
Sugarbeet production (1,000 short tons) 1/	35,325	33,282	28,650	33,618	36,751	36,751	0
Sugarbeet shrink (percent)	7.31	5.17	5.34	6.60	8.14	8.38	0
Sugarbeet sliced (1,000 short tons)	32,742	31,561	27,072	31,399	33,761	33,672	-89
Sugar extraction rate from slice (percent)	15.18	14.77	14.14	15.34	14.81	14.81	0
Sugar from beets sliced (1,000 STRV) 2/	4,970	4,660	3,828	4,818	4,998	4,986	-12
Sugar from molasses (1,000 STRV) 2/	368	352	341	362	360	360	0
Crop-year sugar production (1,000 STRV) 2/	5,338	5,012	4,169	5,181	5,358	5,346	-12
August-September sugar production (1,000 STRV)	715	655	582	765	676	676	0
August-September sugar production of subsequent crop (1,000 STRV)	655	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)	5,279	4,939	4,351	5,092	5,401	5,389	-12

STRV = short tons, raw value.

1/ USDA, National Agricultural Statistics Service.

2/ August–July.

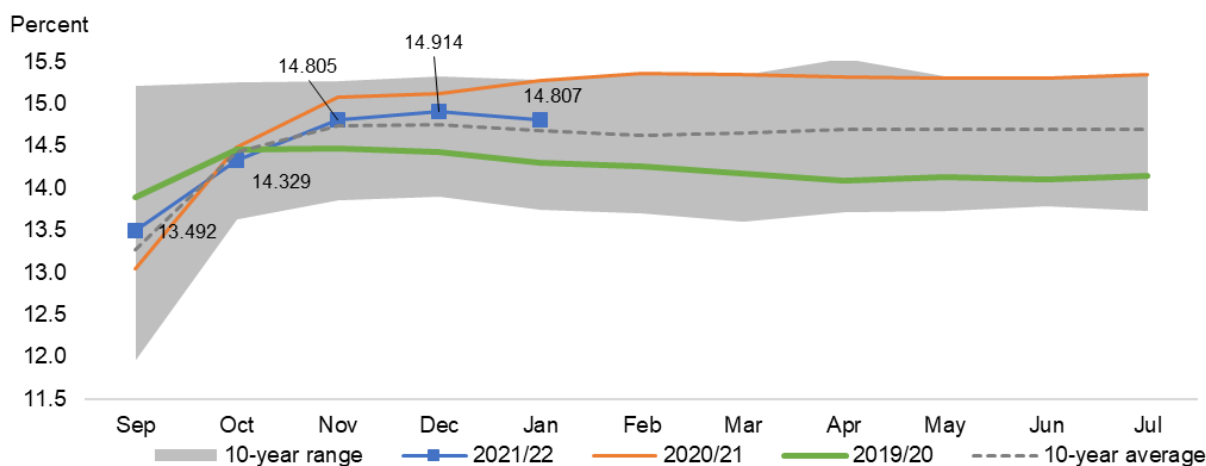
3/ Sugar from imported beets split out for projections only, included in total once full crop-year slice is recorded.

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

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

Figure 2

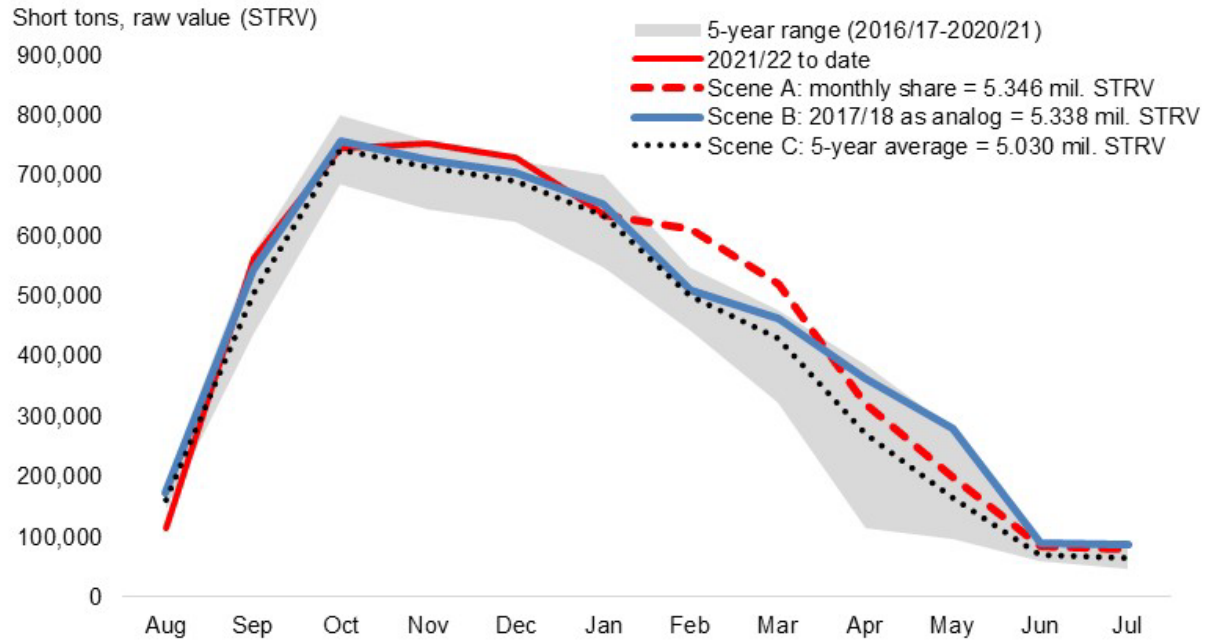
Cumulative sugar extraction rate, beet sugar produced per sugarbeet sliced, by crop year, 2011/12 to 2021/22



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

Figure 3

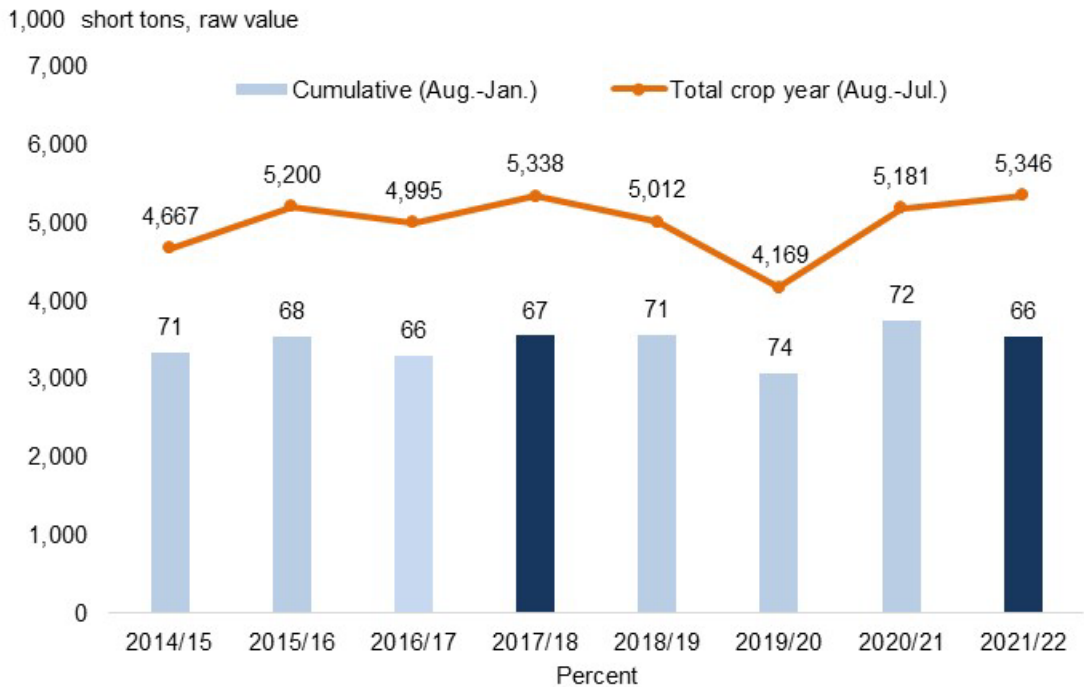
Scenarios for crop year 2021 beet sugar production, August to July



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

Figure 4

Cumulative (August to January) and total crop year beet sugar production (August to July), and percent share of cumulative in total crop year



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

Given a downside risk to the production forecast, three beet sugar production scenarios in the remaining months (February to July) are presented (figure 3). Scenario A assumes that the current 2021/22 crop year production forecast of 5.346 million STRV will be achieved. In this simulation exercise, the remaining sugar that must be produced—equal to 1.811 million STRV (5.346 million STRV minus 3.535 million = 1.811 million)—is partitioned between February to July based on the 5-year average share of each remaining month to the total sugar output (e.g., on average, production in February is 10 percent of the total crop year production). Scenario B assumes that the monthly production in the remaining months will equal those of an analog, in this case, 2017/18 crop year. Finally, Scenario C assumes that the monthly production will track the 5-year average since that has been the case since August (figure 3).

Scenario 1 illustrates that production needs to increase, particularly between February to April, to achieve the 2021/22 crop year output 5.346 million STRV. Scenario 2 uses 2017/18 as analog and shows that a strong late-season campaign can be possible if conditions are conducive. As noted in the *Sugar and Sweeteners Outlook* July 2018 report, favorable weather and storage conditions played a big role in preserving the quality of the sugarbeet piles, which then extended the 2017/18 slicing campaign and raised sugar extraction rate above the 10-year average at that time. However, conducive conditions may not be guaranteed. Given the record-large 2021 sugar beet crop, the campaign is expected to run further into spring particularly in the Red River Valley (RRV) and Great Lakes regions, where record-high yields resulted in some unharvested acreage. If temperatures warm quickly, then the quality of the outside beet piles can deteriorate. Scenario 3 uses a five-year average monthly average and yields a conservative 2021/22 crop estimate of 5.030 million STRV, which is 300,000 STRV less than the current forecast. As such, the forecast merits a close attention especially as more data become available.

Beet sugar expectation for the next crop year will develop when NASS publishes its *Prospective Plantings* report on March 31. There is potential for strong competition from other crops with attractive prices, but the current high sugar prices reportedly can incentivize cooperatives to secure acreage allocation for sugarbeets.

NASS updated sugarcane production forecasts in its March *Crop Production* report. Since the changes were minimal, cane sugar production estimates this month are largely based on the latest information provided by processors in the *SMD*. Florida cane sugar production is lowered 45,059 STRV to 1.960 million, which incorporated the effect of the late January freeze to the crop (table 3). Louisiana cane sugar production is unchanged at 1.906 million STRV, as the harvest campaign concluded in January and expected September 2022 production remains in

line with recent average. Texas is also unchanged at 130,000 STRV. The State's production through January continues to lag the normal pace due to the unusually wet season that has delayed harvest schedule by as much as 60 days. The Texan processor indicated that plans have been made to extend the campaign through mid-April to make up for the lost time.

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

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2021/22	Change from
							February	March	February
									Percent
Florida									
Sugarcane harvested for sugar and seed (1,000 acres)	413.0	417.0	412.7	412.3	410.7	423.3	406.5	406.5	0.0
Sugarcane harvested for sugar (1,000 acres)	398.0	400.0	397.0	397.0	397.0	409.0	392.0	392.0	0.0
Sugarcane yield (short tons per acre)	42.5	40.3	40.9	41.7	42.8	44.4	42.0	42.0	0.0
Sugarcane production (1,000 short tons)	16,915	16,120	16,237	16,555	16,992	18,078.0	16,464	16,464	0.0
Recovery rate (percent)	12.8	12.7	12.2	12.1	12.4	11.6	12.2	11.9	-2.3
Sugar production (1,000 STRV)	2,173	2,055	1,983	2,005	2,106	2,088.8	2,005	1,960	-2.3
Louisiana									
Sugarcane harvested for sugar and seed (1,000 acres)	410.0	431.0	449.6	448.5	469.0	488.4	494.6	494.6	0.0
Sugarcane harvested for sugar (1,000 acres)	385.0	400.0	414.0	425.0	442.0	461.0	464.0	464.0	0.0
Sugarcane yield (short tons per acre)	29.6	28.8	32.5	35.3	27.7	32.9	29.5	29.5	0.0
Sugarcane production (1,000 short tons)	11,396	11,520	13,455	15,003	12,243	15,167	13,688	13,688	0.0
Recovery rate (percent)	12.4	14.0	13.86	12.51	12.73	13.02	13.68	13.69	0.0
Crop year sugar production (1,000 STRV) 1/	1,415	1,618	1,865	1,876	1,558	1,975	1,873	1,874	0.0
Fiscal year sugar production (1,000 STRV) 1/	1,428	1,628	1,862	1,907	1,566	1,916	1,906	1,906	0.0
Texas									
Sugarcane harvested for sugar and seed (1,000 acres)	36.6	39.6	41.8	38.9	33.5	35.9	36.4	36.4	0.0
Sugarcane harvested for sugar (1,000 acres)	35.2	37.7	40.5	37.6	31.3	33.5	33.9	33.9	0.0
Sugarcane yield (short tons per acre)	31.4	37.0	36.8	36.6	33.6	34.0	31.9	31.9	0.0
Sugarcane production (1,000 short tons)	1,105	1,395	1,490	1,376	1,052	1,139.0	1,081	1,081	0.0
Recovery rate (percent)	10.3	10.5	10.1	11.3	10.7	11.7	12.0	12.0	0.0
Sugar production (1,000 STRV)	116	140	169	147	126	133.5	130	130	0.0
United States									
Sugarcane harvested for sugar and seed (1,000 acres)	874.7	903.1	904.1	899.7	913.2	947.6	937.5	937.5	0.0
Sugarcane harvested for sugar (1,000 acres)	831.1	853.2	859.6	859.6	870.3	903.5	889.9	889.9	0.0
Sugarcane yield (short tons per acre)	36.8	35.6	36.6	38.3	34.8	38.1	35.1	35.1	0.0
Sugarcane production (1,000 short tons)	30,555	30,371	31,182	32,934	30,287	34,384	31,233	31,233	0.0
Recovery rate (percent)	12.7	12.7	12.9	12.3	12.5	12.2	11.9	11.9	0.0
Sugar production (1,000 STRV)	3,870	3,867	4,014	4,060	3,798	4,139	4,041	3,996	-1.1

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.

Total Imports Up; Projection Still Lowest Since 2008/09

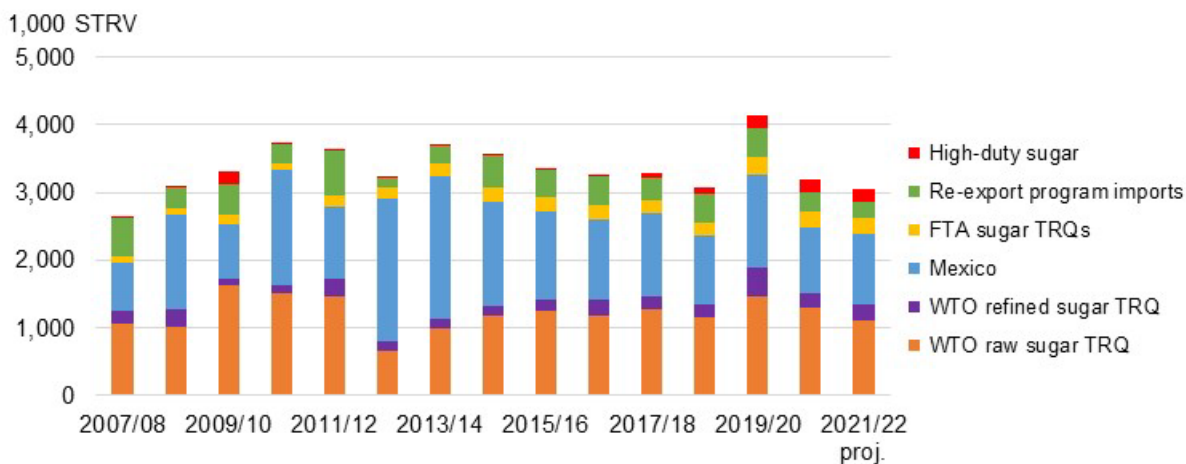
Total imports for 2021/22 are up 31,091 STRV to 3.043 million. This projection is 152,000 STRV less than 2020/21 and would still be the lowest since 2008/09 absent any action to increase minimum trade quotas or Mexican import access (figure 8).

World Trade Organization (WTO) raw sugar tariff-rate quota (TRQ) imports are increased 20,591 STRV based on the most recent reduction of expected shortfall provided on the USDA, Foreign Agricultural Service (FAS) *Sugar Monthly Import and Re-Export Data* report.

Based on the terms of the Suspension Agreements, the Export Limit calculated by the U.S. Department of Commerce (DOC) later in March is expected to be 1.037 million STRV, about 14,500 tons lower than last month's 1.052 million. Note that *WASDE* projects a larger import number for Mexico at 1.050 million STRV due to the inclusion of 12,812 STRV from the 2020/21 export allocation that was permitted by DOC to enter in October 2021 but counted against the 2020/21 Export Limit. As such, the ending stocks-to-use ratio in the March *WASDE* was 13.6 percent rather than the stipulated 13.5 percent.

High-tier tariff sugar imports are increased by 25,000 STRV to 175,000 on pace to date (figure 1). Based on the FAS report, an estimated 126,272 STRV of high-tier tariff imports, of which 62 percent are raw sugar, have entered through February. The 175,000-STRV forecast assumes high-tier tariff refined sugar imports at 7,250 STRV per month for the remaining 7 months and that there would be no more additional high-tier raw sugar imports.

Figure 5
U.S. sugar imports, 2007/08 to 2021/22



STRV = short tons, raw value; FTA = free trade agreement; WTO = World Trade Organization; TRQ = tariff rate quota; proj. = projected.
 Source: USDA, Foreign Agricultural Service.

While the expected volume of total imports is historically on the low side, 2021/22 accumulated imports (October 1 through February 28) are 238,431 STRV higher than at the same time last year. This suggests that 50 percent of the total expected imports have already been entered during the first 4 months of the fiscal year, which is the strongest since 2016/17 (table 4). This pattern can be observed across the import categories except for re-export program imports. Even with upward revisions, WTO raw sugar TRQ imports and high-tier tariff imports' share of the total forecast volume at 63 percent and 72 percent, respectively, lead the pack.

Table 4: U.S. sugar imports, October to February, 2016/17 to 2021/22

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 projected	5-year average
October to February	Short tons, raw value						
Mexico	438,538	193,310	167,742	240,858	231,923	358,182	254,474
WTO raw sugar TRQ	521,543	728,655	627,617	617,644	723,155	686,678	643,723
WTO refined sugar TRQ	104,367	122,412	127,131	133,155	103,368	144,720	118,086
FTA sugar TRQ	73,077	54,530	56,511	80,166	57,279	94,443	64,313
Re-export program	127,663	157,732	215,729	206,927	77,144	99,797	157,039
High-duty sugar	4,081	6,202	36,270	42,603	78,792	126,273	33,590
Total	1,269,268	1,262,840	1,231,000	1,321,353	1,271,662	1,510,093	1,271,225
Share of fiscal year total	Percent						
Mexico	36	16	17	18	24	34	22
WTO raw sugar TRQ	44	57	55	42	56	63	51
WTO refined sugar TRQ	48	64	61	33	48	60	51
FTA sugar TRQ	35	27	30	29	24	40	29
Re-export program	30	48	49	48	26	40	40
High-duty sugar	34	10	40	23	42	72	30
Total	39	39	40	32	40	50	38

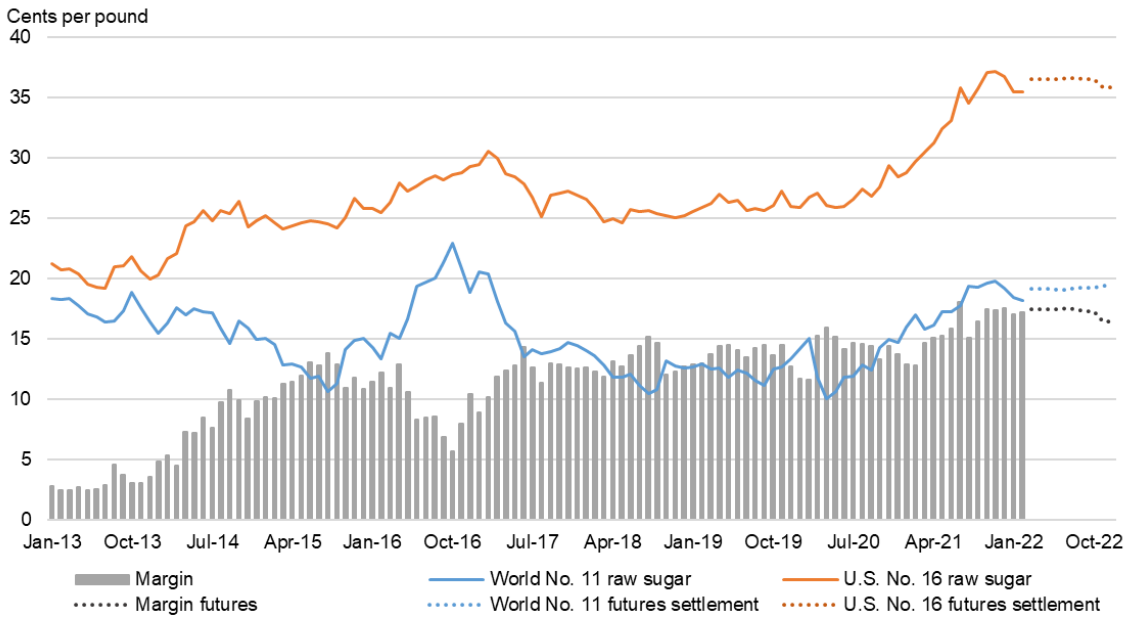
WTO = World Trade Organization; TRQ = tariff rate quota; FTA = free trade agreement.

Source: USDA, Foreign Agricultural Service.

High-tier imports is responsive to the price differentials between the U.S. and the world futures markets, and to the logistical and transportation costs. Based on the No. 16 and No. 11 sugar futures as of March 10, the margin between the domestic and world raw cane prices is between 16.45 to 17.50 cents per pound through the November contract. This is below 18.61 cents per pound, the level at which high-tier raw sugar imports would be economical (assuming a 3.25-cent per pound marketing cost on top of the 15.36-cent tariff) (figure 6).

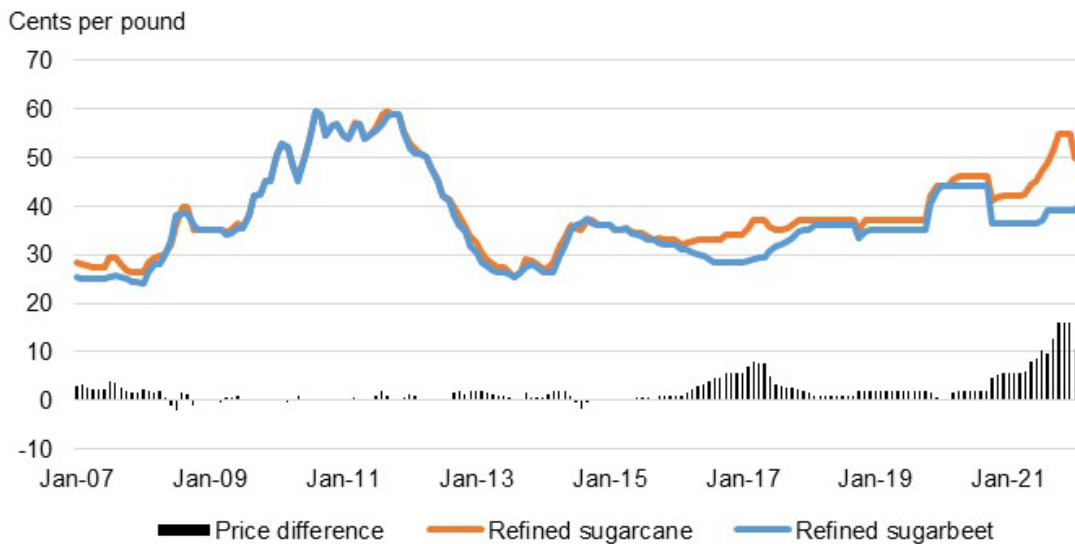
Refined high-tier imports can be a viable option depending on which U.S. refined priced is used. The price divergence between Northeast refined cane and Midwest refined beet sugar has widened since October 2020 (figure 7). In general, if the margin between the U.S. and world refined sugar price is greater than 22.4 cents per pound (assuming a 6.1-cent per pound marketing cost on top of the 16.3-cent per pound tariff), then high-tier refined sugar is feasible. Given the nearby quotes for U.S. refined cane sugar and world refined sugar of around 52 cents and 24 cents, respectively, the margin would be around 28 cents per pound (figure 8), which exceed the cost of importing high-tier sugar (22.4 cents per pound).

Figure 6
U.S. and world raw sugar prices and margin, monthly, January 2013 to December 2022



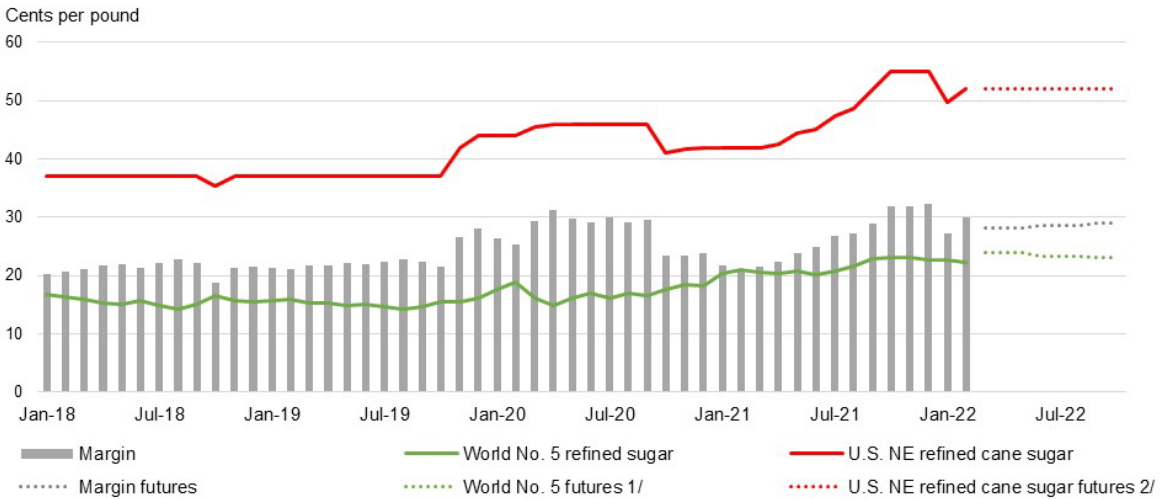
Note: No. 11 and No. 16 contract futures settlement prices, Intercontinental Exchange Inc., on 3/14/2022 out to December 2022.
 Source: USDA, Economic Research Service; Intercontinental Exchange, Inc.

Figure 7
U.S. refined sugarcane and sugarbeet prices, since January 2007



Source: USDA, Economic Research Service.

Figure 8
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/ Nearby futures, No. 5 contract, Intercontinental Exchange Inc., and futures price settlements on 3/9/2022 through September 2022.
 2/ Northeast refined cane sugar and future price as quoted in Milling and Baking News on 3/9/2022 through September 2022.
 Sources: *Milling and Baking News*; Intercontinental Exchange, Inc. (ICE).

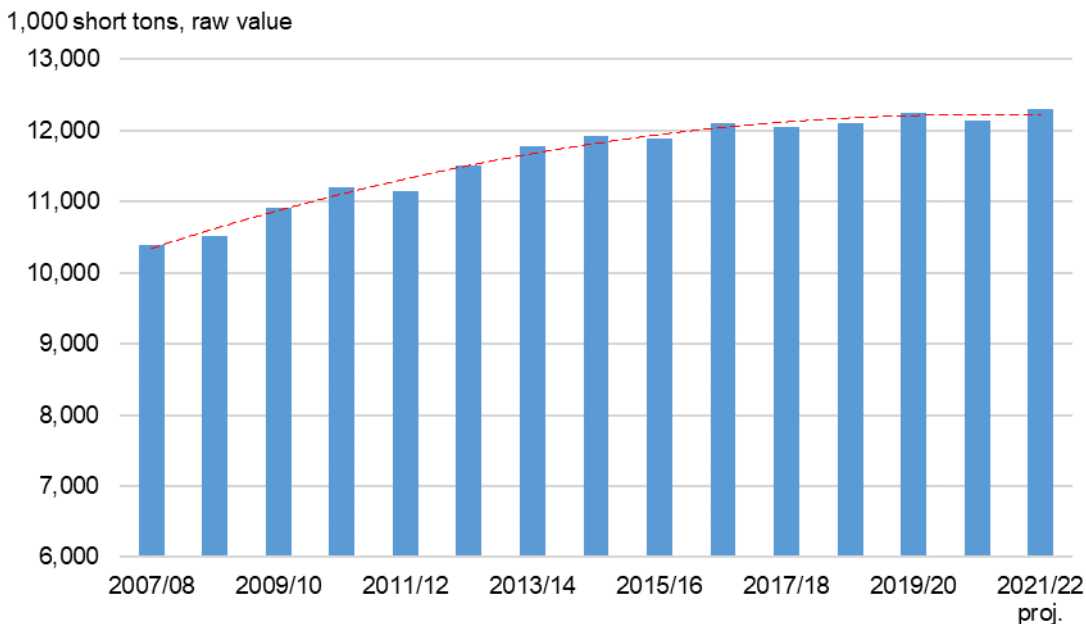
While the market impacts of the Russian-Ukraine conflict on sugar are not yet as significant as with other commodities, the dynamics between the U.S. and world sugar prices can be influenced via crude oil prices and trade bans. World raw sugar futures tend to follow crude oil prices, which have climbed sharply since the conflict started. Brazil, the biggest world sugar producer, announced that its state-controlled oil company (Petrobras) has raised gasoline and diesel fuel prices, as of March 10. This move can incentivize Brazilian mills to divert sugar for exports into ethanol production. Also on March 10, in retaliation for Western sanctions, Russia announced export bans for some goods and agricultural commodities including sugar exports to certain countries. Both events can initiate a bullish effect. If world prices continue to rise, U.S. prices particularly for raw cane sugar—already on a twelve-year high—may follow suit to attract sugar imports.

Sugar Deliveries Raised

The 2021/22 domestic sugar deliveries for food and beverage use are raised 100,000 STRV from last month to 12.300 million on strong delivery pace for beet sugar and direct consumption imports. This reflects a 1.4 percent growth from the 2020/21 level of 12.135 million STRV (figure 9). With no changes to the rest of delivery categories, 2021/22 use is also up 100,000 STRV to 12.440 million.

The latest release of the USDA, FSA *Sweetener and Market Data* (SMD) report shows that food and beverage deliveries through January are 4.118 million STRV (table 5). This represents a 6.3-percent increase during the same period in 2020/21 and would be a new record high for the October-January period, surpassing the 4.068 million STRV previously set in 2017/18 (figure 10). Deliveries of reporting beet processors are 7.5 percent higher than the same period last year and more than offset the cane refiners' deliveries, which are down 2 percent. Refiners' melt rebounded in January and seemed to have settled into the expected monthly seasonal trend since December (figure 11). Non-reporter, direct consumption imports through January are 319,000 STRV, mostly unchanged from last month, and the second largest behind the record-high 459,000 STRV set in 2007/08. The 12.3-million STRV forecast for 2021/22 food and beverage use deliveries is predicated on the assumption that the remaining months closely track the 5-year average (figure 12). As such, the pace in the ensuing months will be closely monitored, particularly the non-reporter delivery component which tends to introduce volatility in the forecasting exercise.

Figure 9
U.S. sugar deliveries for food and beverage use, fiscal year, 2007/08 to 2021/22



proj. = projected.
 Source: USDA, Economic Research Service.

Table 5: Food and beverage deliveries, 2016/17 to 2021/22, October-January

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Annual change Percent
	1,000 short tons, raw value							
Beet sugar processors	1,434	1,724	1,784	1,623	1,654	1,618	1,739	7.5
Cane sugar refiners	2,092	2,028	1,967	2,108	2,111	2,102	2,060	-2.0
Total reporters	3,526	3,752	3,751	3,732	3,765	3,720	3,799	2.1
Non-reporter, direct consumption	231	206	317	265	242	153	319	108.9
Total	3,757	3,957	4,068	3,996	4,008	3,872	4,118	6.3

Source: USDA, Farm Service Agency.

Figure 10
U.S. sugar deliveries for food and beverage use, October-January, 2016/17 to 2021/22

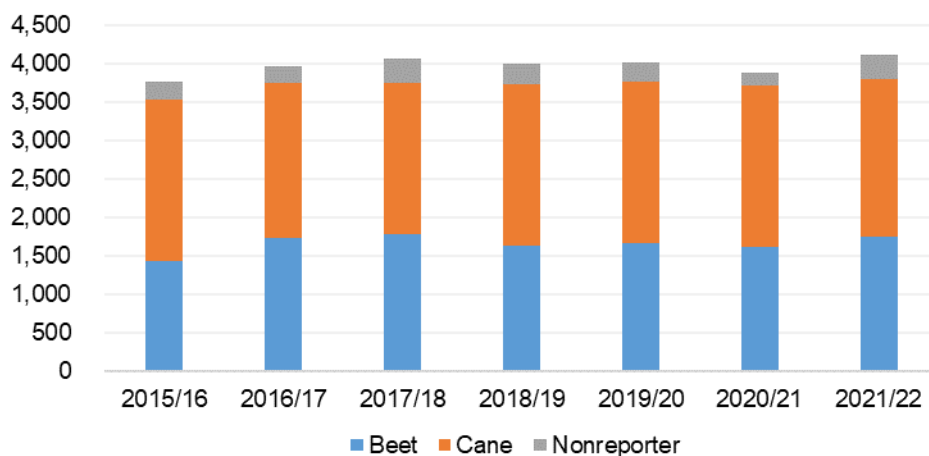
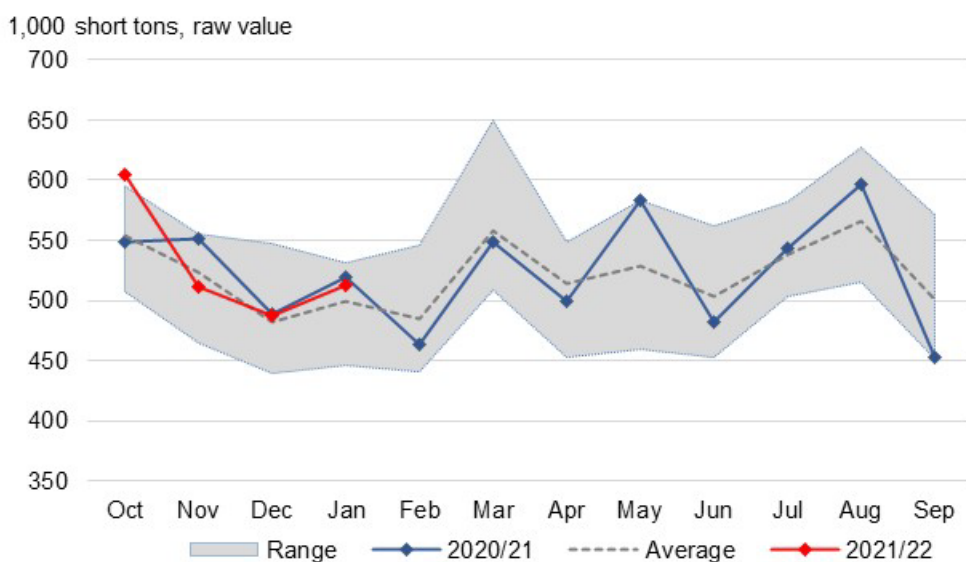


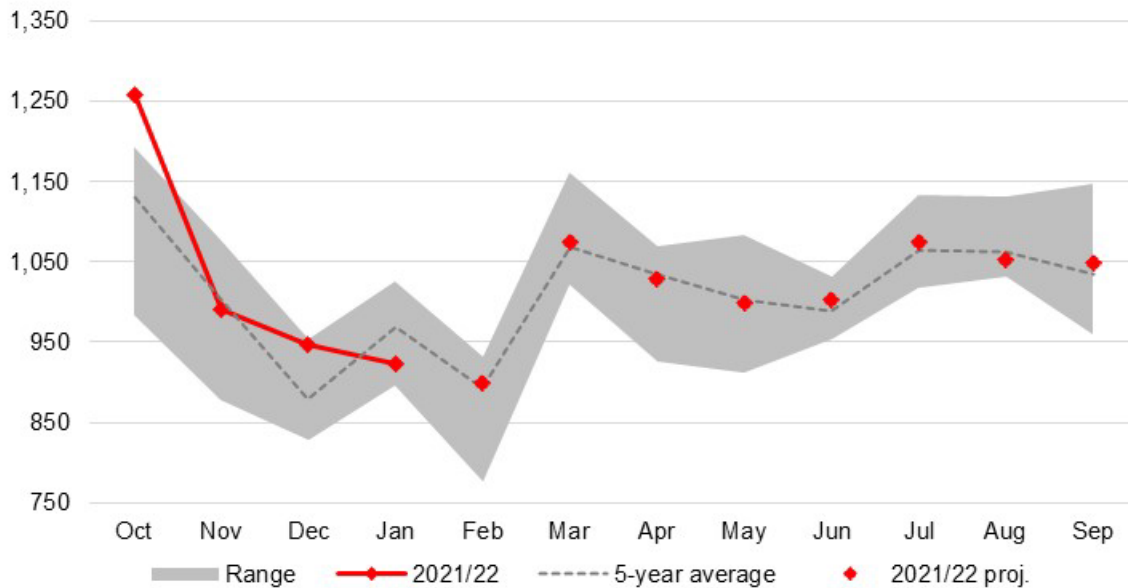
Figure 11
Sugarcane refiners' melt, monthly, 2011/12 to 2021/22



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

Figure 12
Total U.S. sugar deliveries, monthly, 2016/17 to 2021/22

1,000 short tons, raw value



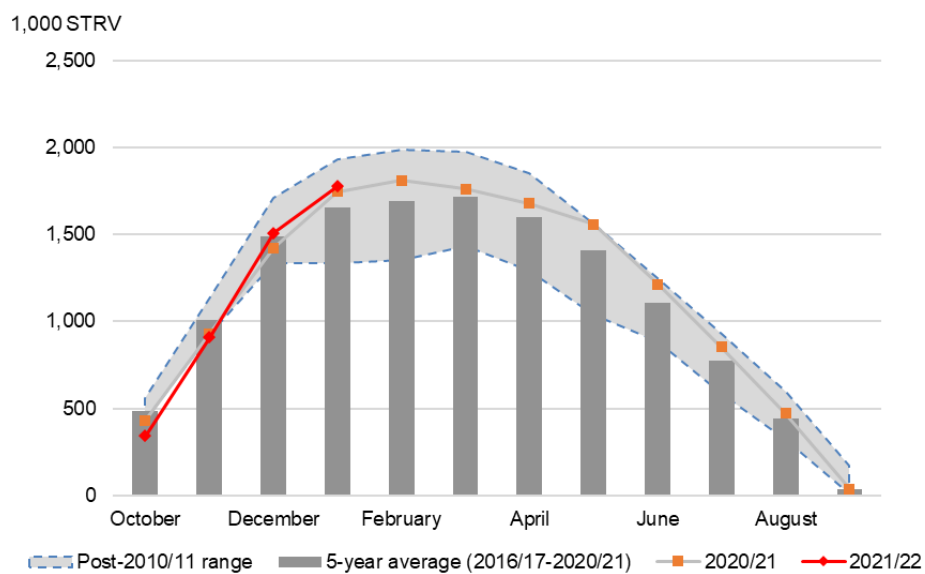
Source: USDA, Farm Service Agency.

Ending Stocks Lowered

The March *WASDE* lowered U.S. sugar ending stocks for 2021/22 to 1.692 million short tons, raw value (STRV) – 126,152 less than last month – on smaller supply and larger use. This then translates to a stocks-to-use ratio of 13.6 percent, down by 1.1 percentage points from the prior month’s 14.7 percent. Note that the *WASDE* projects a larger stocks-to-use ratio than 13.5 percent due to the inclusion of 12,812 STRV imports from Mexico that entered in October 2021 but counted against the 2020/21 Export Limit. Specifically, this amount would be on top of the Export Limit that the U.S. Department of Commerce will calculate later this month based on a 13.5 percent stocks-to-use ratio.

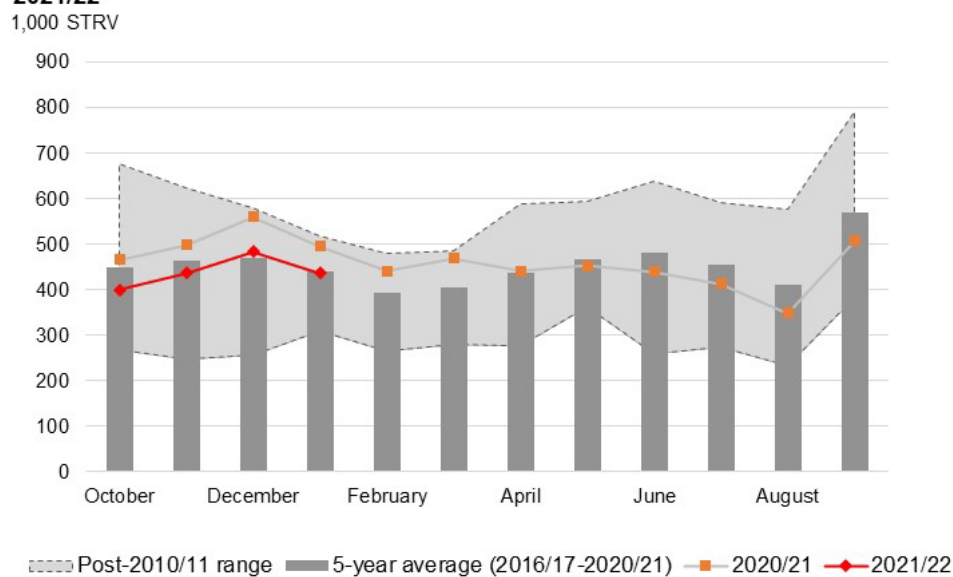
The amount of raw sugar stocks held by cane processors and cane refiners increased and decreased, respectively, following long-term seasonal trends (figures 13 and 14). However, while both track the 5-year average, raw sugar stocks held by cane refiners are about 60,000 STRV below last year’s at this point. Refined stocks held by cane refiners are at the low end of the 10-year range and slightly below last year (figure 15). Sugar inventories held by sugarbeet processors are close to the 5-year average but lower than the same time last year by about 127,000 (figure 16).

Figure 13
Sugarcane processors' raw sugar inventories, monthly, 2015/16 to 2021/22



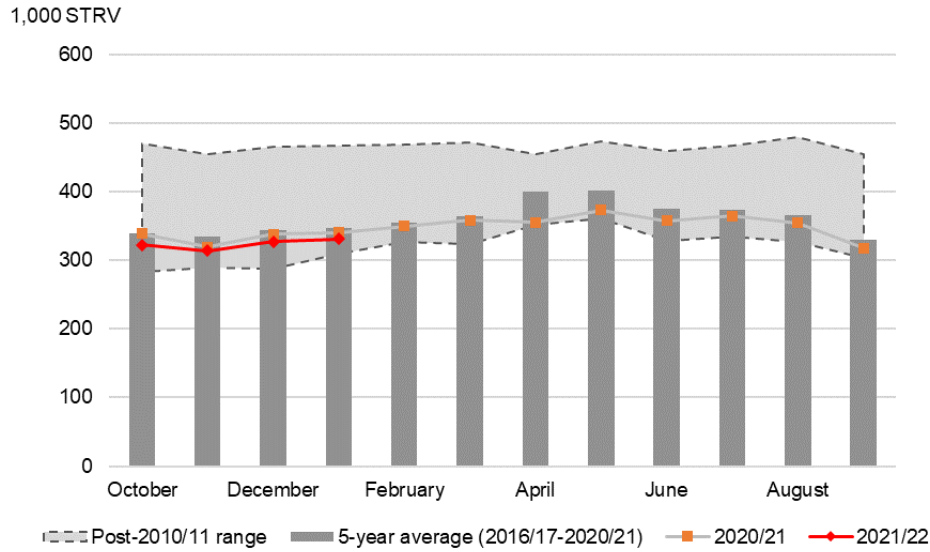
Note: STRV = short tons, raw value.
 Source: USDA, Farm Service Agency.

Figure 14
Sugarcane refiners' raw sugar inventories, monthly, 2015/16 to 2021/22



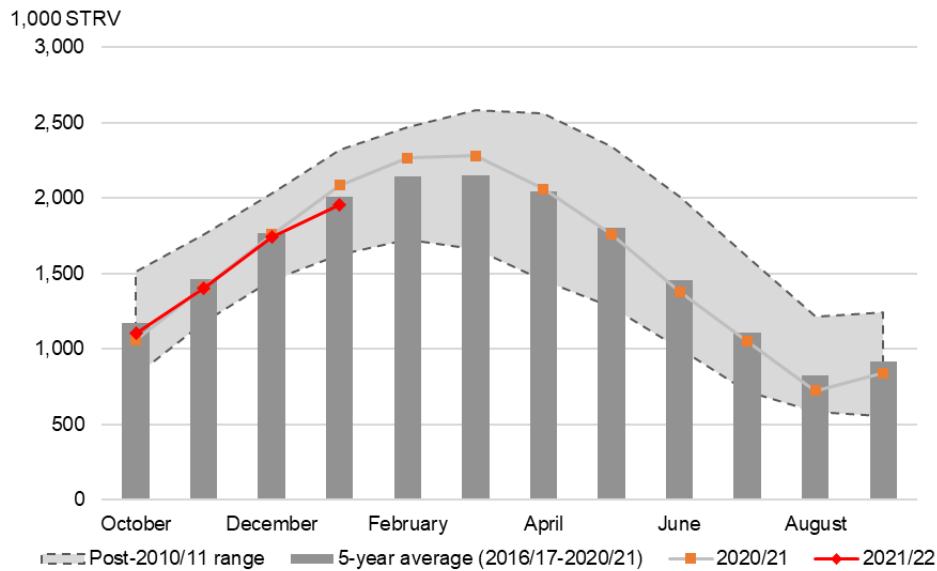
Note: STRV = short tons, raw value.
 Source: USDA, Farm Service Agency.

Figure 15
Sugarcane refiners' refined sugar inventories, monthly, 2015/16 to 2021/22



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

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



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

Mexico Outlook

Mexican Supply and Use Changed Slightly

The March 2022 *World Agricultural Supply and Demand Estimates (WASDE)* report had minor changes to the 2021/22 Mexican sugar supply and use (table 6). Per the terms of the U.S.-Mexico Sugar Suspension Agreements, exports to the U.S. are lowered 12,410 metric tons to 898,808 metric tons. This amount includes the additional 10,965-metric tons from the 2020/21 Export Limit that was permitted by the U.S. Department of Commerce to enter in 2021/22 period. Based on analysis of current production trends (discussed below), imports from Mexico are expected to meet the full Export Limit allocation.

Imports for consumption are further reduced 4,000 metric tons from last month to 15,000 as the lower domestic prices serve to disincentivize imports. Estándar and refined sugar prices in Mexico City have declined steadily in recent weeks, partly due to ample supplies and anticipation of a strong sugar campaign (figure 17).

The accounting procedure for the balance sheet calls for total exports to also be reduced by 4,000 metric tons to 1.751 million metric tons. The net effect is an 8,410 metric ton reduction in exports other than to the United States. There were no changes to the rest of the supply and use balance sheet.

Table 6: Mexican sugar: supply and use by fiscal year (October/September), February 2022

Items	2019/20	2020/21			2021/22		
		February (estimate)	March (estimate)	Monthly change	February (forecast)	March (forecast)	Monthly change
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	54	50	-4
Imports for consumption	55	32	32	0	19	15	-4
Imports for sugar-containing product exports, IMMEX 1/	23	33	33	0	35	35	0
Total supply	6,524	6,638	6,638	0	7,086	7,082	-4
Disappearance							
Human consumption	4,101	3,935	3,935	0	3,915	3,915	0
For sugar-containing product exports (IMMEX)	352	485	485	0	497	497	0
Other deliveries and end-of-year statistical adjustment	1						
Total	4,455	4,420	4,420	0	4,412	4,412	0
Exports	1,212	1,165	1,165	0	1,755	1,751	-4
Exports to the United States and Puerto Rico	1,177	828	828	0	911	899	-12
Exports to other countries	35	337	337	0	844	852	8
Total use	5,667	5,585	5,585	0	6,167	6,163	-4
Ending stocks	858	1,053	1,053	0	919	919	0
Stocks-to-human consumption (percent)	20.9	26.8	26.8	0.0	23.5	23.5	0.0
Stocks-to-use (percent)	15.1	18.9	18.9	0.0	14.9	14.9	0.0
High-fructose corn syrup (HFCS) consumption (dry weight)	1,388	1,320	1,320	0	1,310	1,310	0

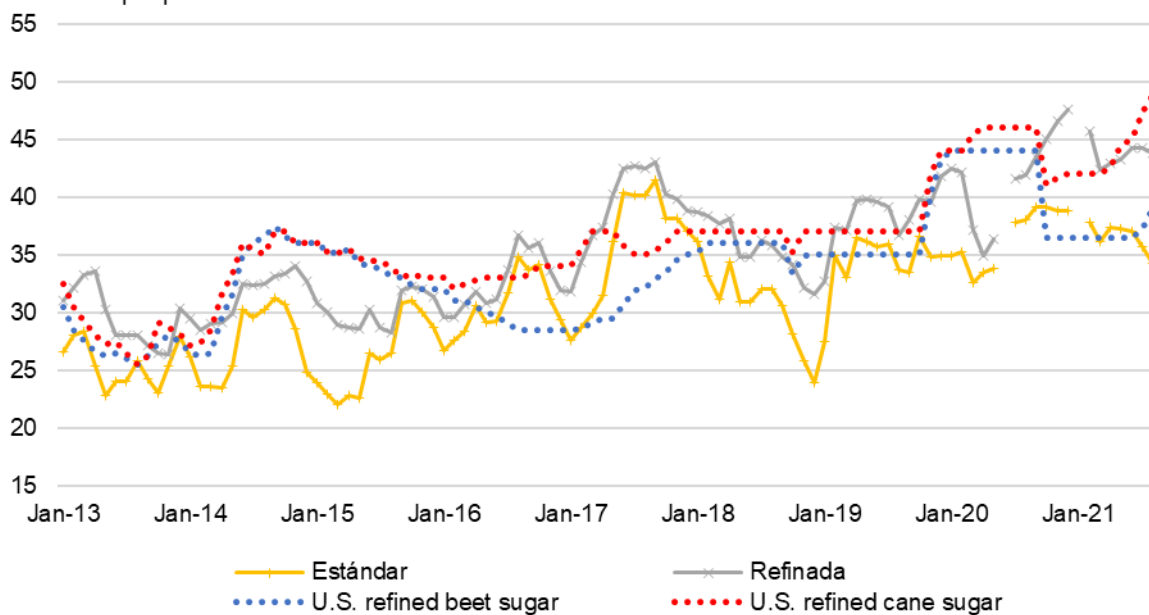
1/ IMMEX = Industria Manufacturera, Maquiladora y de Servicios de Exportación.

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

Figure 17

Mexican and U.S. sugar prices, monthly, January 2013 to February 2022

U.S. cents per pound



Note: The breaks in the Mexican sugar price series on June 2020 and January 2021 are due to data unavailability.
Source: USDA, Economic Research Service.

Sugar Production Unchanged

The 2021/22 *WASDE* forecast for domestic sugar production remains at 5.979 million metric tons (table 6). This is 133,000 metric tons below the second estimate (6.112 million metric tons) that the National Committee for the Sustainable Development of Sugar Cane (CONADESUCA) released in February month.

Although Mexico's sugarcane harvest is in full swing, through February 26 (week 22 of the campaign), accumulated harvested acres and tonnage of sugarcane processed still lag last year's pace. Strong sugarcane yields and an average extraction rate provide some offset (figure 18). The net result is a cumulative sugar production of 3.070 million metric tons, which is comparable with 3.097 million metric tons at the same time last year (table 7). The next few weeks would be crucial, particularly for the harvest pace, when considering if the current sugar production forecast of 5.979 million is attainable.

Table 7: Mexico sugar production as of week 22

	As of week 22		Difference	
	2020/21	2021/22	Level	Percent
Area harvested (hectares)	397,337	371,617	-25,720	-6
Sugarcane processed (metric tons)	28,936,073	28,438,906	-497,167	-2
Sugarcane yield (metric tons per hectare)	72.83	76.53	3.70	5
Number of mills in operation	48	49	1	2
Extraction rate (percent)	10.70	10.79	0.09	1
Total factory yield (metric tons sugar per hectare)	7.79	8.26	0.47	6
Sugar production (metric tons)	3,096,922	3,069,938	-26,984	-1

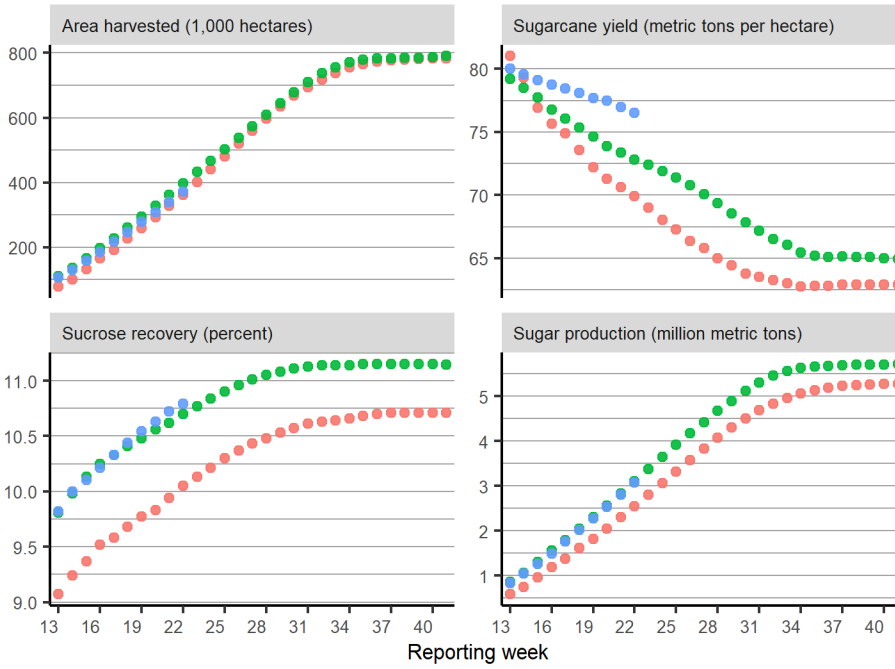
Sources: USDA, Economic Research Service calculations using data from Mexico's National for the Committee Sustainable Development of Sugarcane (CONADESUCA).

Production of less than 99.2 polarity sugar to date is 466,461 metric tons, the largest in the last five years and up 32 percent from last year (figure 19). Production pace for the rest of the sugar types is relatively slower than last year. Priority is being given to meet the requirement that the additional 150,000-short ton, raw value of 99.2 polarity sugar announced by the U.S.

Department of Commerce on November 23 be exported to the U.S. no later than March 31. In its *Avance de Comercio Exterior Ciclo 2021/22* (Advance of Foreign Sugar Trade 2021/2022) document published on February 26, CONADESUCA reported that 66,146 metric tons of this additional sugar have been shipped to the U.S., implying that more than half of the total, or 128,375 metric tons, need to be exported by March 31.

Figure 18

Mexican sugarcane cumulative harvest progress, 2019/20 to 2021/22

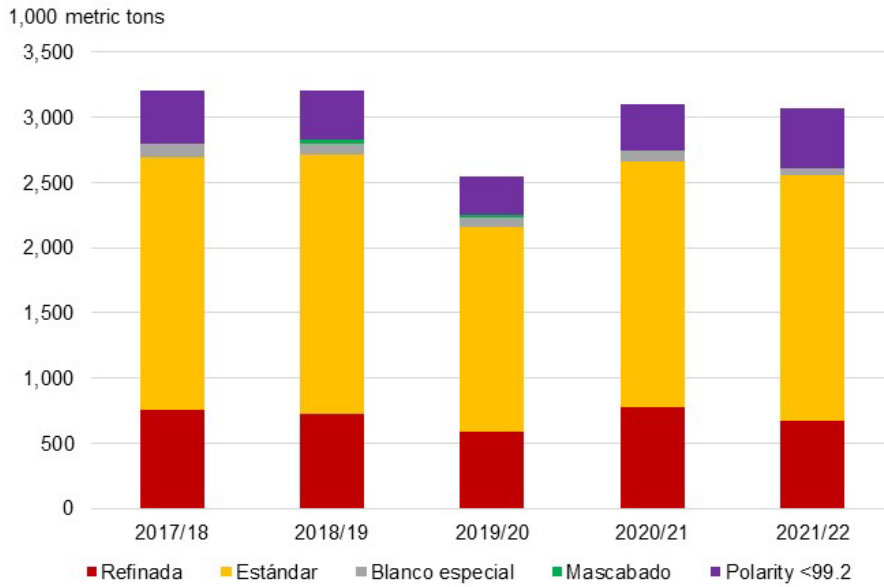


● 2019/20 ● 2020/21 ● 2021/22

Source: Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Figure 19

Mexican sugar production, by type of sugar, as of week 22



Source: Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Deliveries, Ending Stocks Unchanged

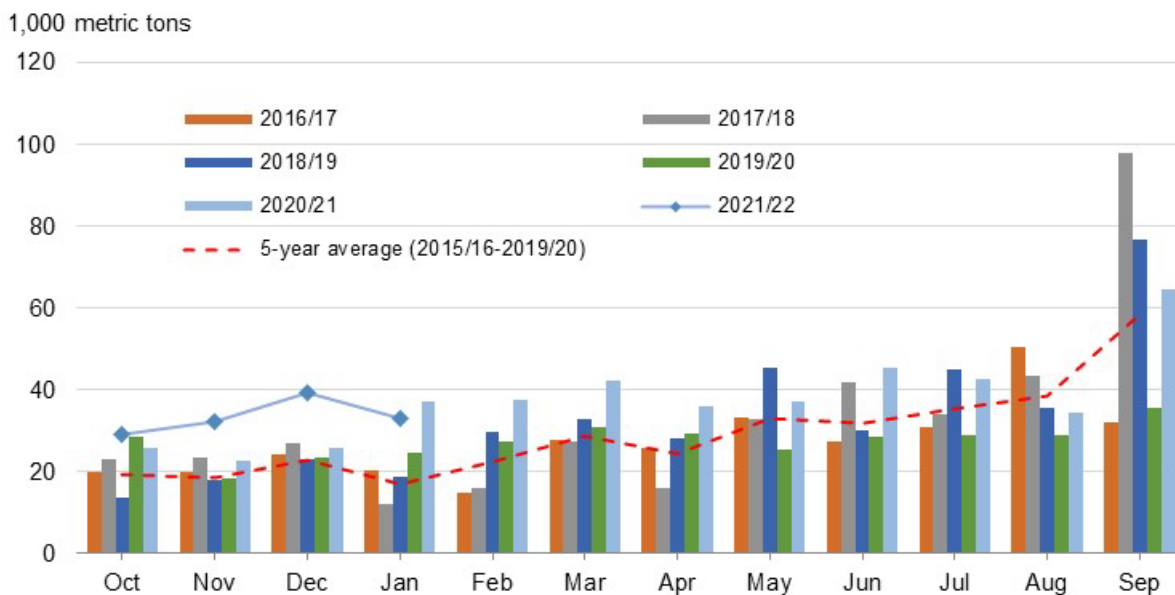
Mexico's 2020/21 total deliveries of 4.412 million metric tons are unchanged from last month's estimate. Monthly deliveries to the *Industria Manufacturera, Maquiladora y de Servicios de Exportación* (IMMEX) program, which allows the use of imported and domestically produced sugar as inputs to manufacture products for export, continue to be higher than the 5-year average. The elevated monthly pace is driven by the program's higher returns and logistical advantages over shipping to non-U.S. export destinations (figure 20).

Deliveries of sugar and high-fructose corn syrup (HFCS) remain unchanged at 3.915 million metric tons and 1.310 million, dry basis, respectively (figure 21). Both are projected to continue the downward trend in place since 2016/17.

With all the changes to supply and use balanced out, ending stocks are unchanged at 919,186 metric tons, which is roughly equivalent to the Mexican government's target of 2.5 months-worth of domestic consumption.

Figure 20

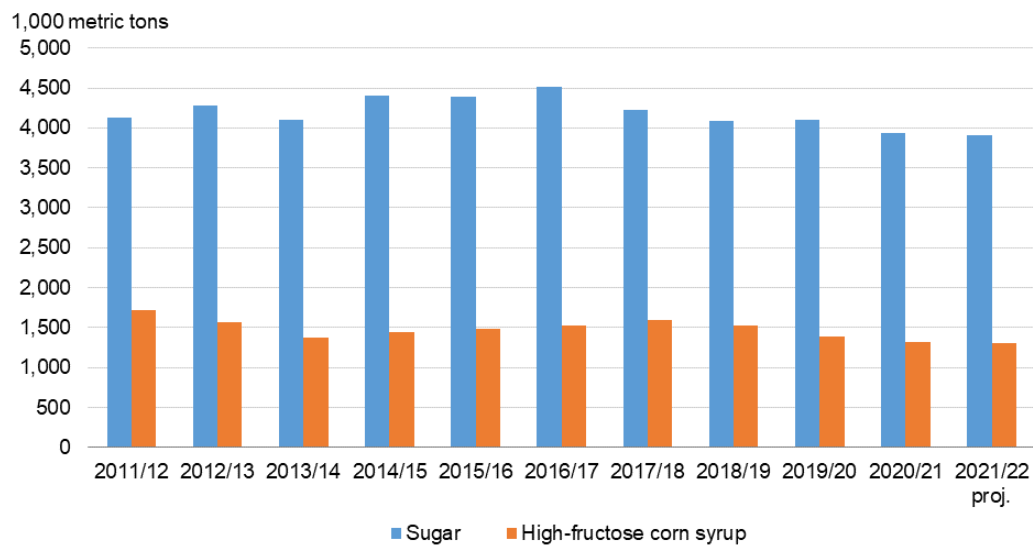
Mexican domestic IMMEX deliveries, monthly, 2016/17 to 2021/22



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

Source: Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Figure 21
Mexican sweetener consumption, October to September, 2011/12 to 2021/22



proj. = projected.

Source: Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Special Article: Sugar Actions at a Glance

The Farm Bill mandates the U.S. Department of Agriculture (USDA) to manage the U.S. sugar program. USDA is authorized to maintain adequate supplies of raw and refined sugar to meet domestic sugar demand, while also prevent low sugar prices that can lead to loan forfeitures. USDA has several tools to accomplish its mandate such as import supply control. For instance, when USDA determines that more sugar is needed to adequately supply the U.S. market, the Secretary has the authority to:

- Increase the World Trade Organization (WTO) sugar tariff-rate quota (TRQ) for raw cane sugar, refined sugar, and specialty sugar;
- Request the U.S. Trade Representative (USTR) to reallocate minimum established WTO raw sugar TRQ; and/or
- Request the U.S. Department of Commerce (DOC) to increase Mexico's import access under the U.S.-Mexico Sugar Suspension Agreements.

USDA's management of the sugar program is governed by several statutory principles.¹ An example is the U.S. Additional Note 5(b)(ii) to Chapter 17 of the HTSUS: "Whenever the Secretary believes that domestic supplies of sugars may be inadequate to meet domestic demand at reasonable prices, the Secretary may increase the WTO TRQs."

To assess the market and administer the sugar program as transparently as possible, USDA monitors several metrics including domestic stocks, production, consumption, and prices.

Figure 22 shows import access-related sugar actions that USDA has taken since fiscal year 2008, the year during when the sugar provisions of the North American Free Trade Agreement (NAFTA) were fully implemented. A table of the actions that can be sorted by fiscal year and type of action will be provided in a future report. This article is not intended to include all the USDA sugar actions. For instance, it does not include the actions that USDA took to in 2012/13 to minimize the sugar program expenditures due to loan forfeitures. Those actions were documented in the *November 2013 Sugar and Sweeteners Outlook* report². In addition, that chart only includes actions that resulted in increases in imported quantities. For instance,

¹ A caveat: While this article cites statutory authority, it is not intended to be an exhaustive legal documentation of all the sugar-related statutes.

² Haley, Stephen. *Sugar and Sweeteners Outlook*: November 2013, SSS-M-303, U.S. Department of Agriculture, Economic Research Service, November 15, 2013.

USDA's request to USTR on March 30, 2020 to combine the fourth and fifth tranches of the refined sugar specialty TRQ and to move the entry date earlier was excluded because this involved change in timing, not an increase in actual imports.

Three market variables are included: prices of refined beet sugar (blue line) and raw cane sugar (yellow line); and stocks-to-use ratio or SUR (gray area). The green shaded area corresponds to the 13.5-15.5 SUR range. The numbers beside the code are the quantities of additional sugar requested, in 1,000 short tons, raw value. The actions are coded below, in alphabetical order.

- **CA** = increase in refined sugar TRQ from Canada under United States-Mexico-Canada Agreement
- **MX** = increase in Mexican import access
 - If the label is on the beet sugar price line, then the additional quantities that USDA requested was Refined Sugar (either polarity ≥ 99.2 or ≥ 99.5 , depending on the timing of request).
 - If the label is on the raw cane sugar price line, then the request was for "Other Sugar" (either polarity of < 99.2 or < 99.5 , depending on the timing of request).
- **RA** = raw sugar TRQ reallocation
- **RF** = increase in refined sugar TRQ
- **RW** = increase in raw sugar TRQ
- **SP** = increase in specialty sugar TRQ

Taking fiscal year 2019 for example, USDA took several actions during this period (October 2019 to September 2020) to stabilize sugar supplies and correct market disruptions due to adverse weather that led to about an 800,000-ton loss in beet sugar production (Figure 22). The unanticipated shortage compelled companies to declare *force majeure*, which reduced the amount of sugar deliveries that were previously contracted for delivery. Below were the actions taken by USDA.

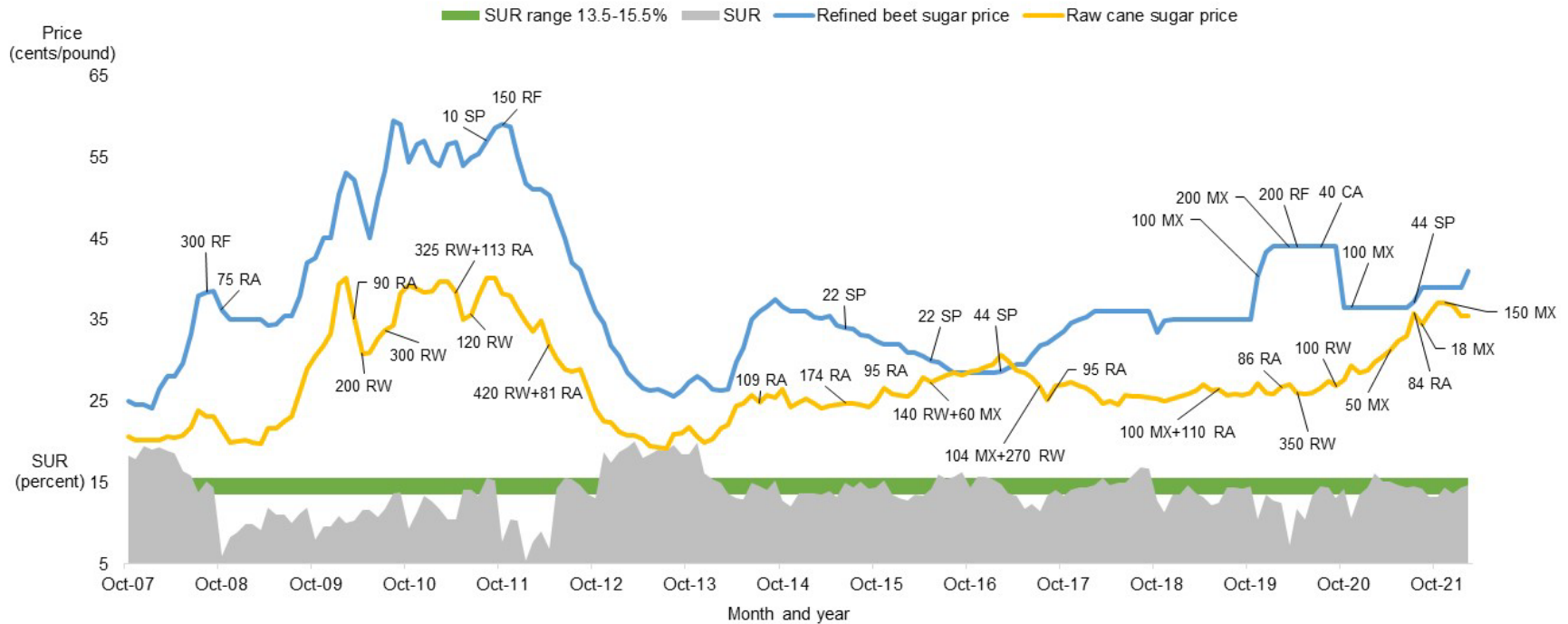
- On November 15, 2019, USDA announced its intent to ensure adequate supplies.³
- On November 22, 2019, USDA requested the Dept. of Commerce to increase the Mexican refined sugar portion of the Export Limit by 100,000 STRV of refined sugar with polarity greater than 99.2.
- On February 7, 2020, USDA requested USTR to reallocate 86,059 STRV of the original World Trade Organization (WTO) fiscal year 2020 raw sugar TRQ.

³ The announcement was published on the USDA, Farm Service Agency's news release page.

- On March 5, 2020, USDA requested the Dept. of Commerce to increase the Mexican refined sugar portion of the Export Limit by 200,000 STRV of refined sugar with polarity greater than 99.2.
- On April 3, 2020, USDA increased the raw sugar TRQ by 350,000 STRV and refined sugar TRQ by 200,000 STRV, and USTR allocated these TRQ increases among supplying countries.
 - When the United States-Mexico-Canada Agreement was implemented on July 1, 2020, USTR granted Canada retroactively 20 percent of the 200,000 STRV refined increase, or 40,000 STRV.
- On September 10, 2020, USDA increased the raw sugar TRQ by 100,000 STRV and extended the final date of entry into U.S. Customs Territory, from September 30 to October 31.

Figure 22

USDA sugar program actions, U.S. refined beet sugar price, U.S. raw cane sugar price, and stocks-to-use ratio (SUR), monthly, since fiscal year 2008



SUR= stocks-to-use ratio; TRQ = tariff-rate quota; USMCA = United States-Mexico-Canada Agreement.

Notes: The sugar program actions are coded as follows:

CA = increase in refined sugar TRQ from Canada under USMCA;

MX = increase in Mexical import access;

RA = TRQ reallocation;

RF = increase in refined sugar TRQ;

RW = increase in raw cane sugar TRQ; and

SP = increase in specialty sugar TRQ (mostly organic sugar).

The numbers beside the code are the quantities of additional sugar requested, in 1,000 short tons, raw value.

The y-axis is separated into two sections: price (cents per pound) and SUR (percent).

Sources: Office of the Federal Register, *Federal Register*; U.S. Department of Commerce, ACCESS.

Suggested Citation

Abadam, Vidalina. *Sugar and Sweeteners Outlook: March 2022*, SSS-M-403, U.S. Department of Agriculture, Economic Research Service, March 15, 2022.

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