



Sugar and Sweeteners Outlook: August 2023

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Vidalina Abadam, coordinator

U.S. Stocks-to-Use Ratio Higher in 2022/23 and 2023/24; Mexico's 2022/23 Imports Up

In the August 2023 *World Agricultural Supply and Demand Estimates (WASDE)* report, the U.S. sugar supply in 2022/23 is raised from last month on increased imports offsetting the slight downward adjustment in beet sugar production. The 2022/23 sugar use is lowered by 25,000 short tons, raw value (STRV) to 12.715 million on the continued slowdown in the delivery pace of sugar for human consumption. Thus, ending stocks in 2022/23 are increased by 173,000 STRV to 2.014 million and the resulting stocks-to-use ratio is 15.8 percent. The outlook for sugar supply in 2023/24 is raised from last month on larger beginning stocks, beet sugar production, and imports, while sugar use is unchanged at 12.740 million STRV. As a result, ending stocks in 2023/24 are raised by 223,000 STRV to 1.942 million and the corresponding stocks-to-use ratio is revised upwards to 15.2 percent.

Mexico's 2022/23 sugar production is finalized at 5.224 million metric tons (MT), the lowest in the last decade. Imports by Mexico in 2022/23 are raised from last month by 125,000 MT to 200,000. The increase translates to a higher volume of U.S.-bound sugar exports and of sugar delivered to companies participating in the *Industria Manufacturera, Maquiladora y de Servicios de Exportación* (IMMEX) program. There are no changes to the Mexican 2023/24 balance sheet this month.

U.S. Outlook Summary

Outlook for Larger Sugar Supplies Raised Stocks-to-Use Ratio in 2022/23 and 2023/24

In the August 2023 *WASDE* report, the U.S. sugar supply in 2022/23 is raised from last month by 148,000 STRV to 14.729 million as larger import volumes of re-export program sugar, Mexican sugar, and high-tier duty sugar offset the slight decrease in beet sugar production (table 1). The 2022/23 sugar use is lowered by 25,000 STRV to 12.715 million on the continued slowdown in the delivery pace of sugar for human consumption. Thus, ending stocks in 2022/23 are increased by 173,000 STRV to 2.014 million and the resulting stocks-to-use ratio is 15.8 percent, up from last month's 14.4 percent.

U.S. sugar supply in 2023/24 is raised from last month by 223,000 STRV to 14.682 million on larger beginning stocks, beet sugar production, and imports. Sugar use is unchanged at 12.740 million STRV. As a result, ending stocks in 2023/24 are raised by 223,000 STRV to 1.942 million and the corresponding stocks-to-use ratio is revised upwards from last month's 13.5 percent to 15.2.

Table 1: U.S. sugar: supply and use by fiscal year (October/September), August 2023

Items	2021/22		2022/23		2023/24		
	Final	July (estimate)	August (estimate)	Monthly change	July (forecast)	August (forecast)	Monthly change
	1,000 short tons raw value						
Beginning stocks	1,705	1,820	1,820	0	1,841	2,014	173
Total production	9,157	9,242	9,231	-11	9,199	9,203	4
Beet sugar	5,155	5,147	5,136	-11	5,022	5,073	51
Cane sugar	4,002	4,095	4,095	0	4,177	4,130	-47
Florida	1,934	1,983	1,983	0	2,034	2,034	0
Louisiana	1,944	2,034	2,034	0	2,092	2,054	-38
Texas	124	78	78	0	51	42	-9
Total imports	3,646	3,519	3,678	159	3,420	3,465	45
Tariff-rate quota imports	1,579	1,868	1,869	1	1,644	1,604	-40
Other program imports	298	125	200	75	125	200	75
Non-program imports	1,769	1,526	1,609	83	1,651	1,661	10
Mexico	1,379	1,176	1,219	43	1,486	1,486	0
High-duty	390	350	390	40	165	175	10
Total supply	14,508	14,581	14,729	148	14,459	14,682	223
Total exports	29	35	35	0	35	35	0
Miscellaneous	81	0	0	0	0	0	0
Total deliveries	12,578	12,705	12,680	-25	12,705	12,705	0
Domestic food and beverage use	12,470	12,600	12,575	-25	12,600	12,600	0
To sugar-containing products re-export program	80	80	80	0	80	80	0
For polyhydric alcohol, feed, other alcohol	27	25	25	0	25	25	0
Commodity Credit Corporation (CCC) for ethanol	0	0	0	0	0	0	0
Total use	12,688	12,740	12,715	-25	12,740	12,740	0
Ending stocks	1,820	1,841	2,014	173	1,719	1,942	223
Private	1,820	1,841	2,014	173	1,719	1,942	223
Commodity Credit Corporation	0	0	0	0	0	0	0
Stocks-to-use ratio (percent)	14.3	14.4	15.8	1.4	13.5	15.2	1.7

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

Beet Sugar Production in 2022/23 Lowered; Increased in 2023/24 on Higher Sugarbeet Yields

Since the crop year campaign concluded in July and the beet slicing is completed (except in California), the *WASDE* reflects the processors' estimate of sugar from beets sliced as published in the USDA, Farm Service Agency (FSA) *Sweetener Market Data (SMD)* report (table 2). The estimate is down from last month by 11,000 STRV to 4,680 million. With no changes to the other variables, the fiscal year 2022/23 beet sugar production is likewise reduced by 11,000 STRV from last month to 5.136 million, 20,000-STRV lower (0.4 percent) than 2021/22's 5.155 million.

Table 2: Beet sugar production calculations, 2020/21–2023/24

	2022/23	2022/23	Monthly	2023/24	2023/24	Monthly
	July	August	change	July	August	change
Sugarbeet production (1,000 short tons) 1/	32,574	32,574	0	33,876	34,358	482
Sugarbeet shrink (percent)	6.26	6.26	0.00	6.83	6.56	-0.27
Sugarbeet sliced (1,000 short tons)	30,535	30,535	0	31,563	32,103	540
Sugar extraction rate from slice (percent)	15.36	15.33	-0.04	14.66	14.57	-0.09
Sugar from beets sliced (1,000 STRV) 2/	4,690	4,680	-11	4,627	4,678	51
Sugar from molasses (1,000 STRV) 2/	360	360	0	360	360	0
Crop year sugar production (1,000 STRV) 2/	5,050	5,040	-11	4,987	5,038	51
Aug.–Sep. sugar production (1,000 STRV)	537	537	0	633	633	0
Aug.–Sep. sugar production of subsequent crop (1,000 STRV)	633	633	0	633	633	0
Sugar from imported beets (1,000 STRV) 3/	N/A	N/A	N/A	35	35	0
Fiscal year sugar production (1,000 STRV)	5,147	5,136	-11	5,022	5,073	51

STRV = short tons, raw value.

1/ USDA, National Agricultural Statistics Service.

2/ August–July.

3/ Sugar from imported beets in 2022/23 are already included in the crop year production. Typically, this component is separated for projection purposes and included in total once full crop year slice is available.

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

Meanwhile, sugarbeet processors are at the cusp of the 2023/24 harvest campaign, with sugarbeets pre-piling underway in some processing facilities in the Red River Valley region. The 2023/24 crop year beet sugar production is raised from last month by 51,000 STRV to 5.038 million. The increase was based on the first processor survey-based sugarbeet yield forecast published in the National Agricultural Statistics Service (NASS) August *Crop Production* report and on adjustments made to the projection for sugarbeet shrink and sugar extraction rate.

In its August *Crop Production* report, NASS projected an initial national yield of 30.9 tons per acre, which is higher than the *WASDE* July forecast of 30.5 tons per acre. If realized, the 30.9-ton-per-acre national yield is 8 percent higher than last year's 28.6 tons and would be the third highest yield since 2017/18 (table 3). Per NASS, 2023/24 yields are forecast to be either the same (California) or higher than 2022/23 in all 11 producing States (except Wyoming), and in all 4 producing regions (figure 1). However, current weather patterns present a risk to the yield potential due to ongoing dry conditions in sugarbeet fields in rain-dependent Michigan and North Dakota, and hail and untimely rains in irrigated Colorado and Wyoming. As in the past, NASS will provide an update to the initial yield forecast in its *Crop Production* reports in the subsequent months as harvest gets underway.

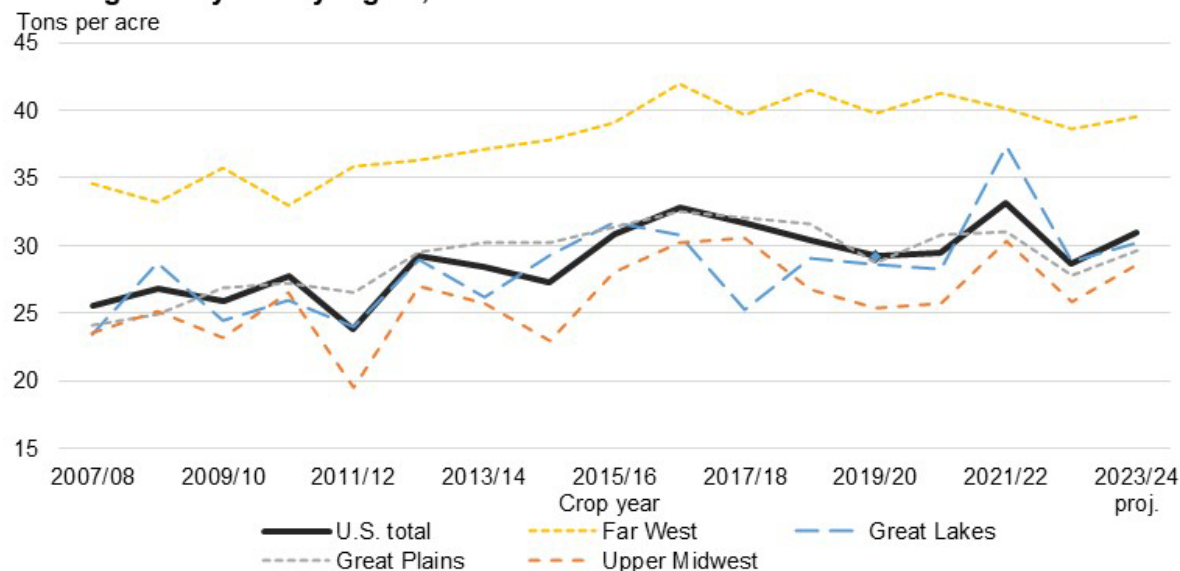
Table 3: Sugarbeet yields, crop year 2018/19–2022/23

State	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 est.	2023/24 proj.
	Tons per acre						
Minnesota	30.6	25.7	25.0	26.1	31.0	25.7	29.0
North Dakota	30.4	28.8	26.0	24.9	29.2	26.1	27.9
Idaho	39.2	40.5	39.0	40.5	39.5	38.1	39.0
Michigan	25.2	29.1	28.6	28.3	37.4	28.8	30.2
Nebraska	31.8	31.9	25.4	31.0	31.9	24.2	28.3
Montana	32.7	31.1	31.6	31.3	29.8	30.5	33.2
Wyoming	28.2	30.8	28.3	29.6	29.5	29.1	28.9
Colorado	35.7	32.6	30.7	31.3	33.7	28.7	29.6
California	43.7	48.8	45.4	46.6	45.4	45.8	45.8
Oregon	36.7	39.4	38.5	40.9	37.9	33.9	36.1
Washington	48.3	48.3	45.5	47.9	46.1	44.0	45.0
U.S. total	31.7	30.4	29.2	29.4	33.2	28.6	30.9

est. = estimated; proj. = projected.

Source: USDA, National Agricultural Statistics Service.

Figure 1
U.S. sugarbeet yields by region, 2007/08–2023/24



proj. = projected.

Note: The States in each region are: Great Lakes (Michigan), Upper Midwest (North Dakota, Minnesota); Great Plains (Colorado, Montana, Nebraska, Wyoming); and Far West (California, Idaho, Oregon, Washington).

Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Statistics Service.

Given the upward yield revision to 30.9 tons per acre and with the NASS forecast for sugarbeet area harvested unchanged at 1,110,700 acres, sugarbeet production is increased by 482,000 short tons to 34.358 million. The forecast for sugarbeet shrink and sugar extraction rate are adjusted to reflect 10-year average (6.56 percent and 14.57 percent, respectively). Meanwhile, the forecast of sugar produced from imported beets is unchanged at 35,000 STRV.

Early sugar production (August–September) for the 2023/24 campaign can be lower if processors delay the harvest later in September to allow the drought-affected crop to get more rain and further mature. In this month's *WASDE*, there are no changes made to the 633,000-STRV forecast of sugar early production in 2023 but will be re-evaluated next month as more information becomes available. With no changes to early sugar production, the fiscal year 2023/24 sugar production— similar with the crop year basis—is raised from last month by 51,000 STRV to 5.073 million STRV. Despite this increase in the 2023/24 sugar production forecast, the current figure would be 63,000-STRV lower (1 percent) than 2022/23's 5.136 million.

Cane Sugar Production Down in 2023/24 Mostly in Louisiana

The fiscal year 2023/24 U.S. cane sugar production is reduced from last month by 47,000 STRV to 4.130 million on the combined decreases in Louisiana and Texas. The forecast for Florida is unchanged at 2.034 million STRV.

Louisiana's crop year 2023/24 sugar production is adjusted down by 38,000 STRV to 2.054 million based on processors' reporting to *SMD*, which reflected lower sugarcane yield amid the unusually dry conditions in Central and Southern Louisiana due to less-than-normal rainfall and above normal temperatures since June. Since both the September 2023 and September 2024 early production are unchanged at 55,000 STRV, Louisiana's fiscal year 2023/24 sugar production is also projected at 2.054 million STRV.

The recent decline in Louisiana's sugarcane crop ratings likely reflects the drought's effect on the crop. As of August 13 (week 32), the NASS good-to-excellent sugarcane condition ratings for Louisiana dropped from last week's 56 percent to 47 percent, the lowest for this period in the last 5 years (table 4). This rating would also be the lowest for the 2023/24 season since NASS started tracking in early March.

Table 4: Crop conditions in Louisiana through week 32^{1/}, by crop year

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	5-year average
	Percent						
Good-to-excellent	58	59	81	63	74	47	67
Excellent	13	15	30	8	17	1	17
Good	45	44	51	55	57	46	50
Fair	35	33	17	32	25	36	28
Poor	6	7	2	5	1	10	4
Very poor	1	1	0	0	0	7	0

^{1/} Week 32 was August 13 in 2023; exact dates vary by year.

Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Statistics Service.

Based on USDA’s communication with industry contacts in Louisiana, beneficial rainfall in the next 2 weeks is crucial for yields to recover; otherwise, there can be further production declines. The prospect for timely rainfall appears doubtful based on the August 10 National Weather Service’s drought information. This most recent news release stated that the outlook for Louisiana is “for above normal temperatures and near to below normal precipitation over the next two weeks and the remainder of August.”

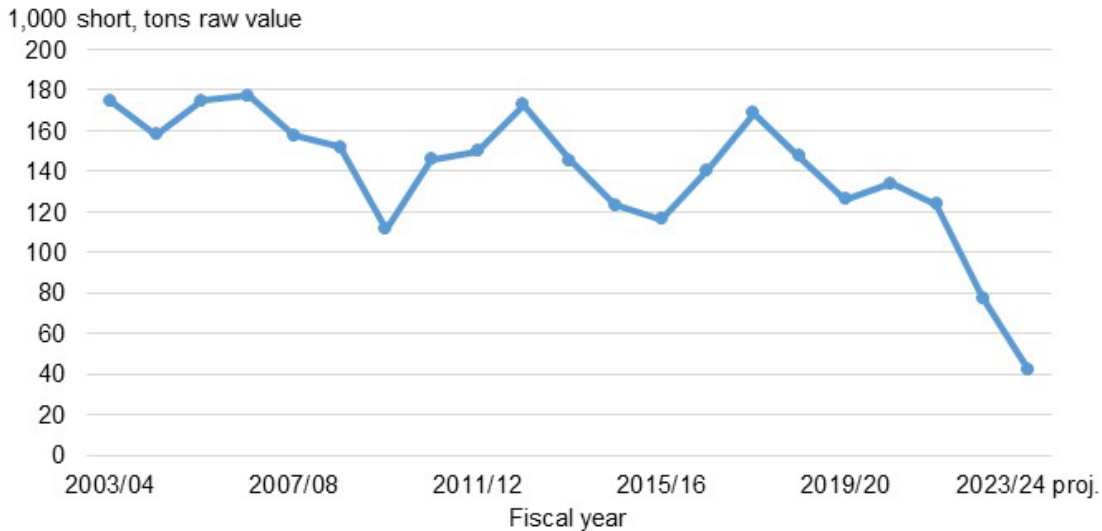
There has been industry reporting about postponing the start of the harvest campaign in Louisiana—which usually starts in September—to wait on beneficial rainfall that can improve the outlook for the crop. Pushing back the harvest could potentially lower the 55,000-STRV estimate for early season production in September 2023. An adjustment to this estimate, in turn, would lead to revisions last year’s (2022/23) fiscal year sugar production for Louisiana where the September 2023 production is accounted for.

Record-Low Texas Cane Sugar Production in 2023/24

Texas fiscal year 202/24 sugar production is down from last month by 9,000 STRV to 42,000 STRV, which would be 36,000-STRV lower (46 percent) than last year’s 78,000 STRV and the lowest since 2003/04 (figure 2). The reduction is based on processors’ reporting to *SMD* which reflects lower expectations of harvested area and yield. Similar with the weather situation in Louisiana, the Texas crop has been growing under hot and dry conditions. Sugarcane growers in the Rio Grande Valley who rely mainly on irrigation are being restricted by the timing of water releases from Mexico under the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande (1944 Water Treaty).

Figure 2

U.S. cane sugar production in Texas, by fiscal year, 2003/04–2023/24



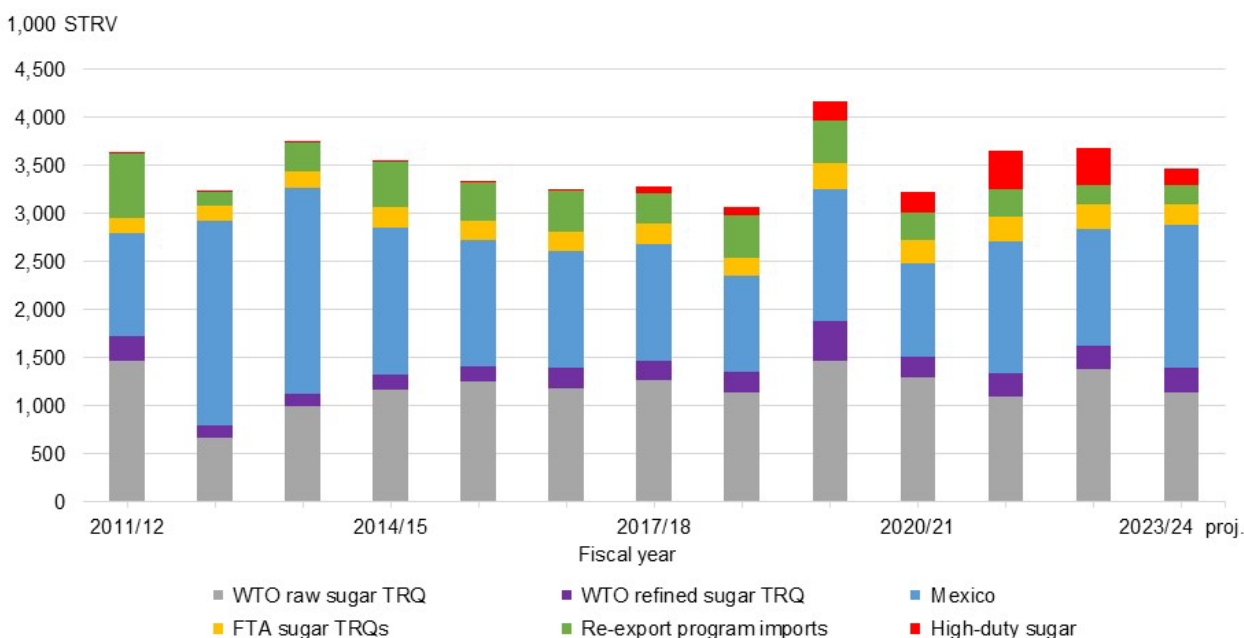
proj. = projected.
Source: USDA, Farm Service Agency.

Sugar Imports Up in 2022/23

Total sugar imports in 2022/23 are raised from last month by 159,000 STRV to 3.680 million as the decrease in the World Trade Organization (WTO) raw sugar tariff-rate quota (TRQ) imports is offset by larger volume expected under several import categories (figure 3). If realized, the updated import volume would be the second largest behind 2019/20 (4.165 million STRV), the year USDA took several actions to increase imported sugar to replace weather-related domestic beet sugar production losses.

The 35,000-STRV reduction in the 2022/23 raw sugar TRQ is based on USDA, Foreign Agricultural Service's (FAS) analysis of a larger expected shortfall following the U.S. Office of the Trade Representative's (USTR) July 19 announcement of the country allocation of the 138,000-STRV increase in the 2022/23 WTO raw sugar announced by USDA on July 10.

Figure 3
U.S. sugar imports by type, 2011/12–2023/24



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

The largest over-the-month increase among the 2022/23 import categories occurred in the re-export program, which is revised upwards by 75,000 STRV to 200,000 after a relatively large entry in July was recorded in the U.S. Department of Homeland Security, Customs and Border Protection (CBP) database.

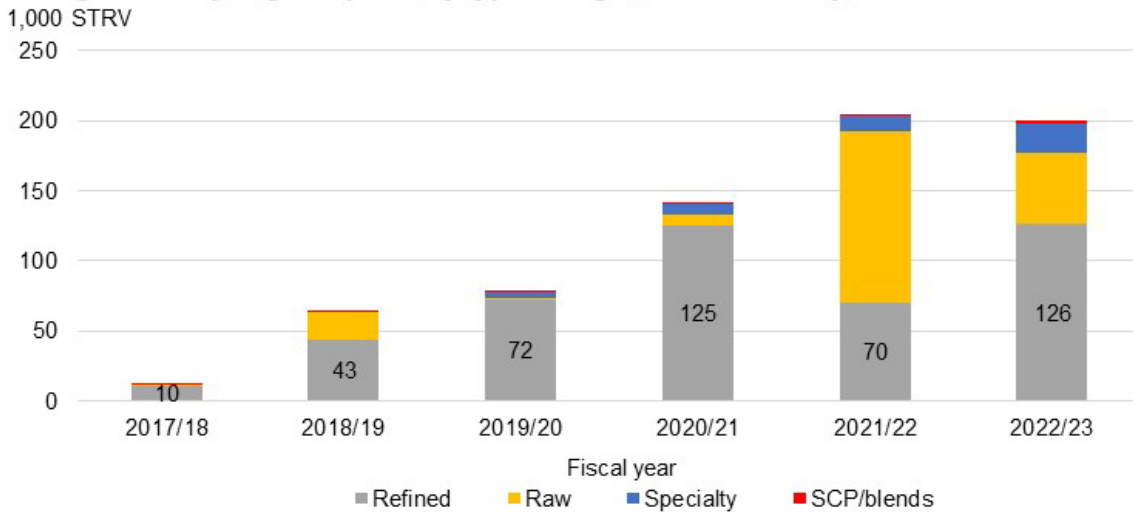
Second, with a larger Mexican supply availability (see Mexico section), expected imports from Mexico in 2022/23 are raised by 43,000 STRV to 1.219 million STRV. This amount would still be below the March U.S. Needs of 1.306 million STRV and about 160,000-STRV lower (12 percent) than last year’s 1.379 million.

Next, the 2022/23 high-tier sugar imports are increased by 40,000 STRV to 390,000—matching last year’s record-high volume since 2006/07, based on the increased pace in raw and refined sugar alike. Total high-tier imports between October 2022–May 2023 are around 199,715 STRV, which is relatively close to last year’s 203,794 STRV over the same period (figure 4). Specifically, this month’s upward adjustment incorporates a 16,000-STRV raw sugar entry in early August and an expected increase in the entry pace of refined sugar in the remaining months. High-tier refined sugar imports from CBP through May 2023 totaled

126,000 STRV, almost double the final volume of refined sugar that entered last year during the same period. This pace translates to a 15,750-STRV per month average for the past 8 months, which is faster than the 5-year average and have either been at or above high end of the 5-year range (figure 5).

Figure 4

U.S. high-tier duty sugar imports, by type of sugar, October to May, 2017/18–2022/23

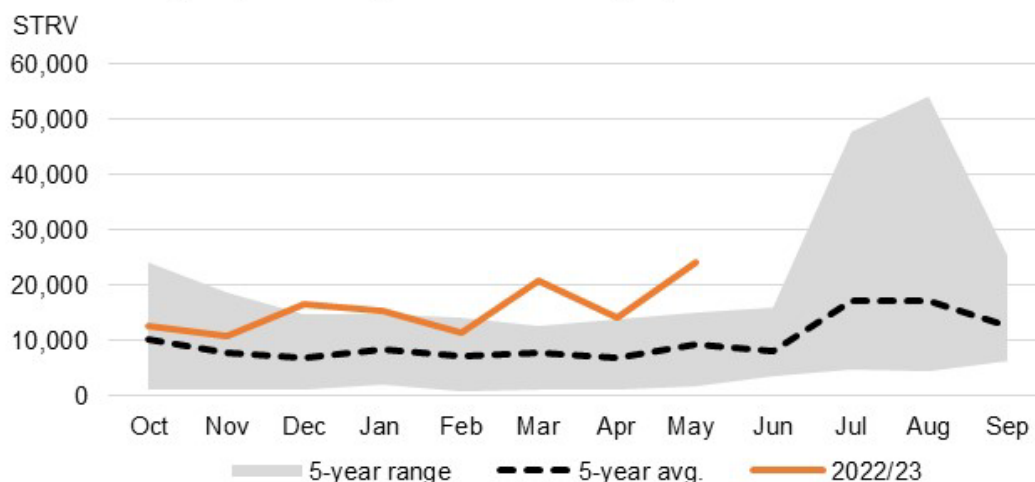


STRV = short tons, raw value; est. = estimated; proj. = projected; SCP = sugar-containing products.

Note: The Harmonized Tariff Schedule (HTS) lines are 1701.12.5000, 1701.13.5000, and 1701.14.5000 for raw sugar; 1701.91.3000, 1701.99.5025, 1701.99.5050, for refined sugar; 1701.99.5015 and 1701.99.5017 for specialty sugar including organic; and 1702.90.2000, and 2106.90.4600 for SCP/blends.

Source: USDA, Economic Research Service's calculation using U.S. Department of Commerce, Bureau of the Census trade data downloaded from the U.S. International Trade Commission's *DataWeb*.

Figure 5
U.S. monthly imports of high-tier refined sugar, 2017/18–2022/23



STRV = short tons, raw value; avg. = average
 Source: USDA, Economic Research Service's calculation using U.S. Department of Commerce, Bureau of the Census trade data downloaded from the U.S. International Trade Commission's *DataWeb*.

As a side note, future entry of additional high-tier raw sugar has been shared by industry sources to USDA, but such imports will only be added to the balance sheet after CBP formally reports the entry. The current high U.S. price environment relative to the world price and the suspension agreements' reset requirements to 13.5 percent stocks-to-use ratio have likely helped make high-tier sugar (including raw sugar) economical, and thus explain the increasing trend in high-tier sugar imports.

Lastly, imports from the free trade agreements (FTAs), which are on calendar years, are up by 36,000 STRV to 250,000 on expectation that the volume that typically enters in the fourth quarter will arrive earlier (by September 30) and will be accounted for in fiscal year 2022/23.

Sugar Imports in 2023/24 Also Raised

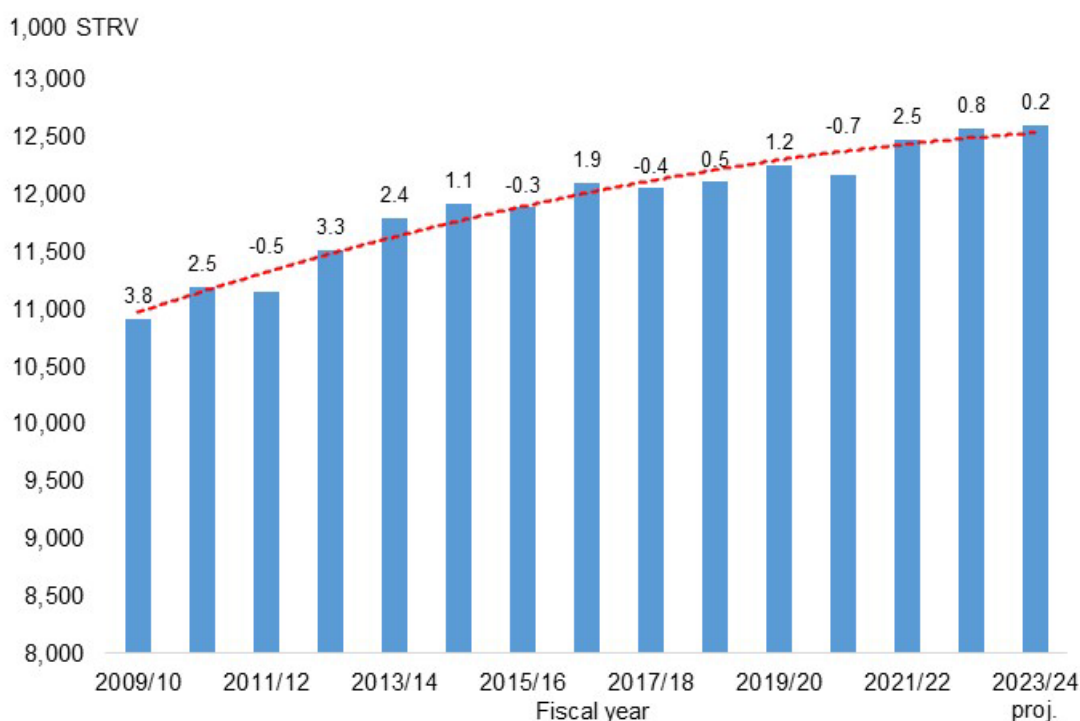
The 2023/24 forecast for total sugar imports is raised from last month by 45,000 STRV to 3.465 million as the combined 85,000-STRV increase in the re-export program and high-tier imports counter the reduction in FTA (down 36,382 STRV) and refined sugar TRQ (down 3,256 STRV). The reduction in FTA is due to the earlier arrival of the FTA imports, and thus included in the 2022/23 balance sheet, while the reduction in refined sugar TRQ is due to the expectation that the 3,256-STRV minimum volume of refined sugar TRQ from Mexico in the USTR's July 19 announcement will be unfilled. This is because Mexico's export volume to the

U.S. is presently under the terms of the sugar suspension agreements.

Sugar Deliveries Lowered in 2022/23; Unchanged in 2023/24

Sugar deliveries for food and beverage use in 2022/23 are lowered by 25,000 STRV from last month to 12.575 million based on the slower-than-expected pace of delivery as reflected in the *SMD* through June. The estimate would still be larger than last year's 12.470 million by 105,000 STRV, representing a 0.8 percent annual growth (figure 6). With no changes to the delivery estimate for non-food use, the total use in 2022/23 is lowered by the same amount to 12.715 million STRV. The 2023/24 forecast for food use and total use is unchanged at 12.600 million STRV and 12.740 million, respectively, reflecting an over-the-year growth of 0.2 percent.

Figure 6
U.S. sugar deliveries for food and beverage use, 2009/10–2023/24



STRV = short tons, raw value; proj. = projected.

Note: The dashed red line represents the long-term trend line. Numbers on top of the bars represent the annual growth rates (percent).

Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency.

This month's 25,000-STRV reduction in the 2022/23 food and beverage use was based on the continued slowdown in delivery pace against contracts that has been observed since April particularly of beet sugar (figure 7a). *SMD* data through June indicate that beet sugar deliveries are lower by 271,000 STRV (7 percent) from the same period last year (table 5). This reduction

offsets the over-the-year increases in the delivery of cane sugar (175,000 STRV or 4 percent) and sugar for direct consumption (85,000 STRV or 13 percent). While cane sugar refiners have been stepping up deliveries, which have offset those of their counterparts in the beet sugar industry, their deliveries have also noticeably slowed down since May (figure 7b). This is supported by the corresponding slowdown in cane refiners' melt over the same 2-month period, with June melt posting a record low of 458,000 STRV since 2012/13 (figure 8). The delivery slowdown is also reflected in the level of stocks held by beet processors (figure 9) and cane refiners (figure 10) at the end of June, both of which are above last year and the 5-year average.

Table 5: Food and beverage deliveries, October–June, 2017/18–2022/23

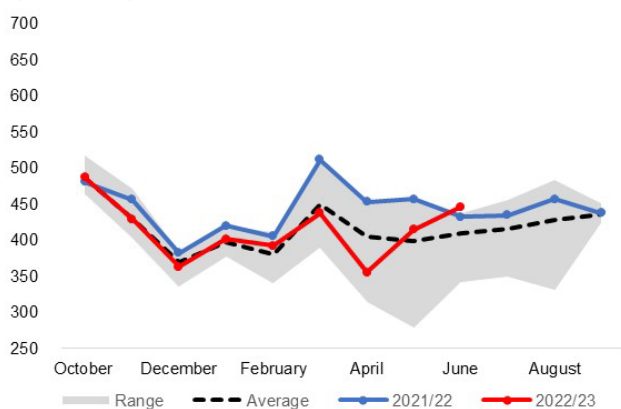
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23 est.	Annual change	
	1,000 short tons, raw value (STRV)						1,000 STRV	Percent
Beet sugar processors	3,909	3,738	3,314	3,674	3,997	3,726	-271	-7
Cane sugar refiners	4,496	4,690	4,879	4,670	4,668	4,843	175	4
Total reporters	8,405	8,428	8,192	8,344	8,666	8,569	-96	-1
Non-reporter (direct consumption)	449	543	842	670	663	748	85	13
Total	8,854	8,971	9,034	9,014	9,329	9,318	-11	0
	Percent share in total						5-year average	
Beet sugar processors	44	42	37	41	43	40	41	
Cane sugar refiners	51	52	54	52	50	52	52	
Non-reporter (direct consumption)	5	6	9	7	7	8	7	
Total	100	100	100	100	100	100	100	

est. = estimated.

Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency.

Figure 7a
Beet sugar deliveries, monthly, 2017/18 to 2022/23

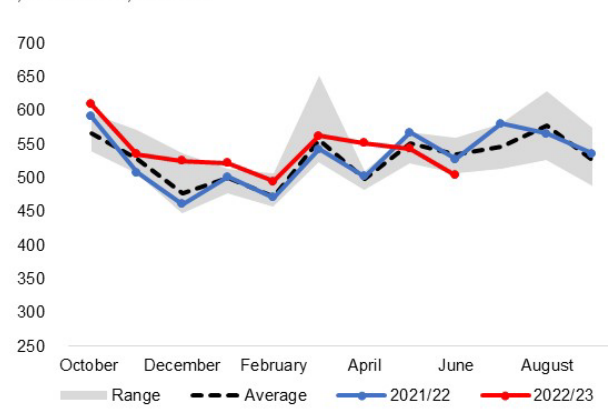
1,000 short tons, raw value



Source: USDA, Farm Service Agency.

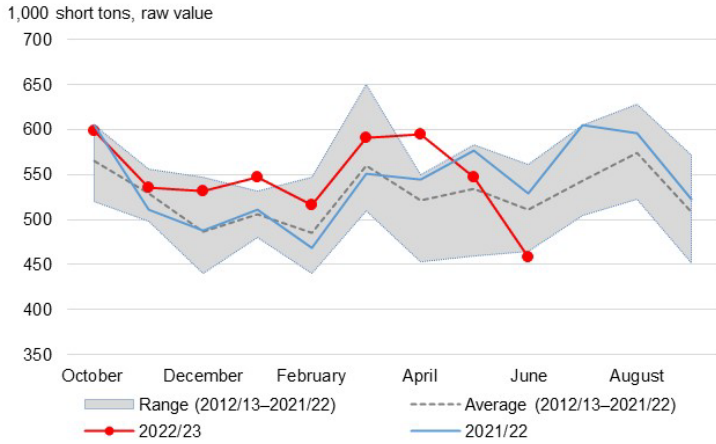
Figure 7b
Cane sugar deliveries, monthly, 2017/18 to 2022/23

1,000 short tons, raw value



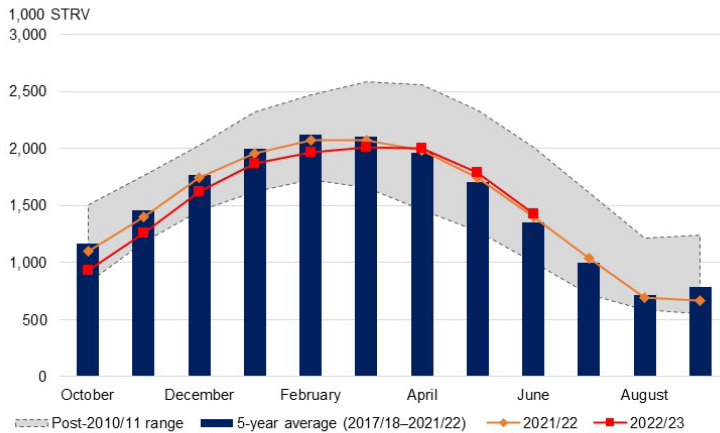
Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency.

Figure 8
Sugarcane refiners' melt, monthly, 2012/13 to 2022/23



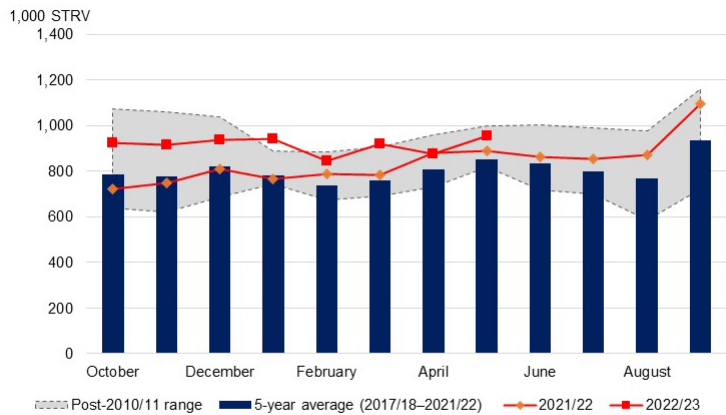
Melt = quantity of raw sugar processed.
 Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency.

Figure 9
Sugarbeet processors' total sugar inventories, monthly, 2010/11 to 2022/23



Note: STRV = short tons, raw value.
 Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency.

Figure 10
Sugarcane refiners' total sugar inventories (raw and refined), monthly, 2010/11 to 2022/23



Note: STRV = short tons, raw value.
 Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency.

Regional Patterns Highlight Sugar Delivery Offset in 2022/23

A closer look at the regional patterns, using *SMD* data through June, confirms that beet sugar deliveries are down from last year across all regions (except New England but the volume is relatively small), even in the North Central where it traditionally eclipses cane sugar deliveries (figures 11 and 12). Conversely, the compensating effect of the cane sugar deliveries, even in the traditionally beet-dominated Central and West regions, is evident given that the ratios are greater than 1 in all but the New England region.

This report also offers a regional analysis of non-reporter deliveries or direct consumption imports—sugar imported by companies other than the beet processors and cane refiners—using the port of entry data from CBP’s Automated Commercial Environment (ACE) database.¹ Non-reporter deliveries are assumed to occur in the region associated with the State where the port of entry is located. A caveat is that the delivery destination can be to a different region but due to transportation logistics, it would likely be in the same region as the port of entry.

Through June 2023, most of non-reporter deliveries transpired in the South region, followed by Mid-Atlantic and West regions (figure 11). This is expected given the locations of the major ports of entry, which include Texas, California, New York, Louisiana, and Pennsylvania (table 6). Over-the-year ratios show a mixed pattern for direct consumption imports. While the pace in the South through June 2023 (1.37) is higher than last year which is similar to cane sugar deliveries, it has been slower in the Mid-Atlantic (ratio is 0.99) and West (0.86) regions as with beet sugar deliveries.

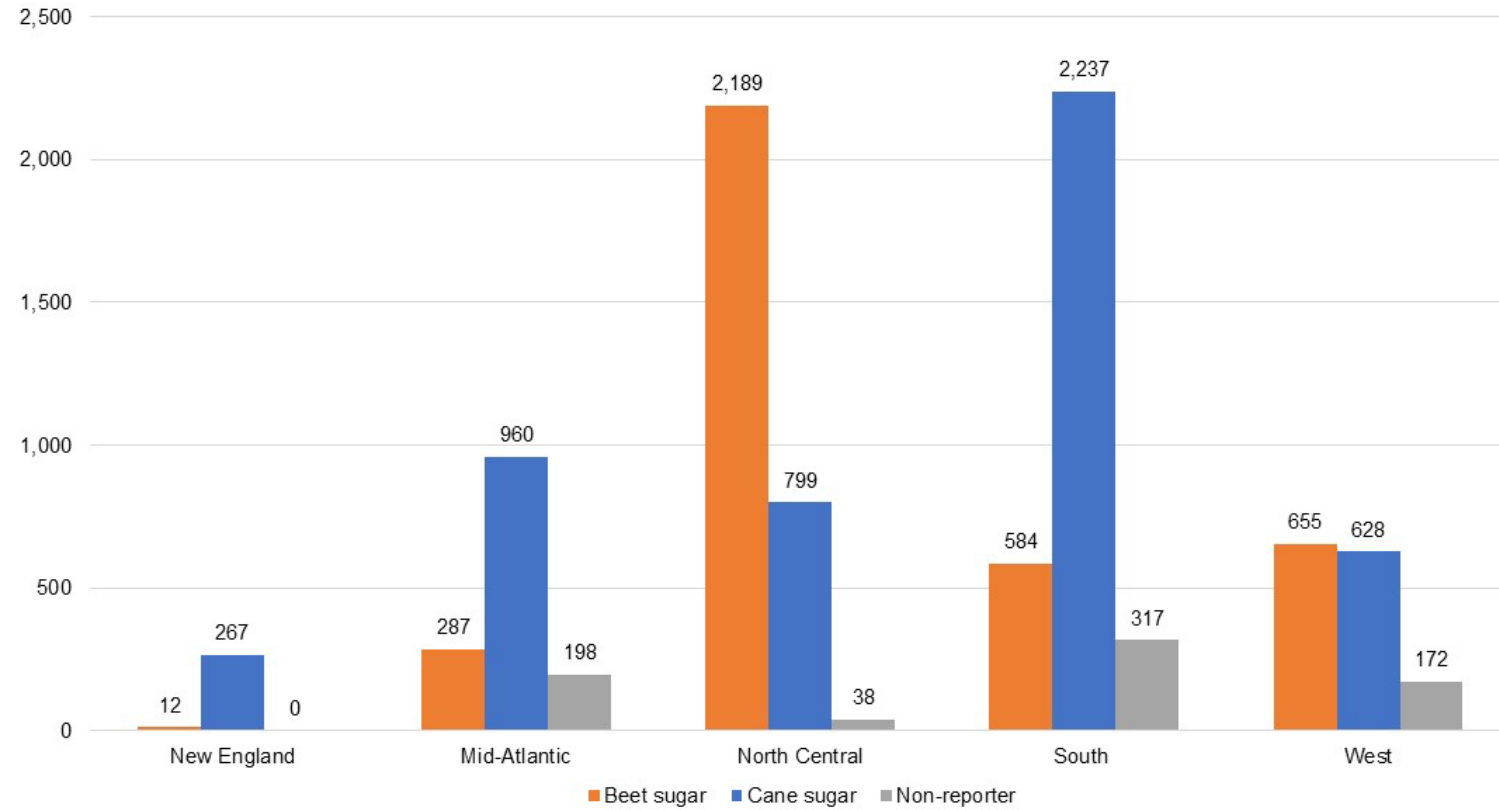
The net effect is that the aggregate sugar deliveries for food and beverage through June is down by 11,000 STRV relative to last year. Potential factors behind the delivery pace deceleration include a return to a “just-in-time” business approach by food and beverage companies that reduces the desire for building additional inventory. Also, high interest rates and sugar prices have likely discouraged companies from deliberately holding more stocks than normal. It is also possible that transportation bottlenecks have dissipated allowing for timely delivery of sugar. Weakened consumer demand amid recession and inflation concerns may also have contributed.

¹ The non-reporter data from U.S. Customs and Border Protection (CBP) is not the same as the non-reporter data in the *Sweetener Market Data (SMD)* report. The CBP data are import data reported by port of entry. The *SMD* non-reporter data in the *SMD* is only available as an aggregate (not at the State or port of entry level) and is residually derived using a formula: non-reporter sugar imports are the difference between total imports reported by the Foreign Agricultural Service (FAS) and the total imports reported by the beet processors and cane refiners in the *SMD*.

Figure 11

Cumulative sugar deliveries in 2022/23, October–June, by source of sugar and regions^{1/}

1,000 short tons, raw value

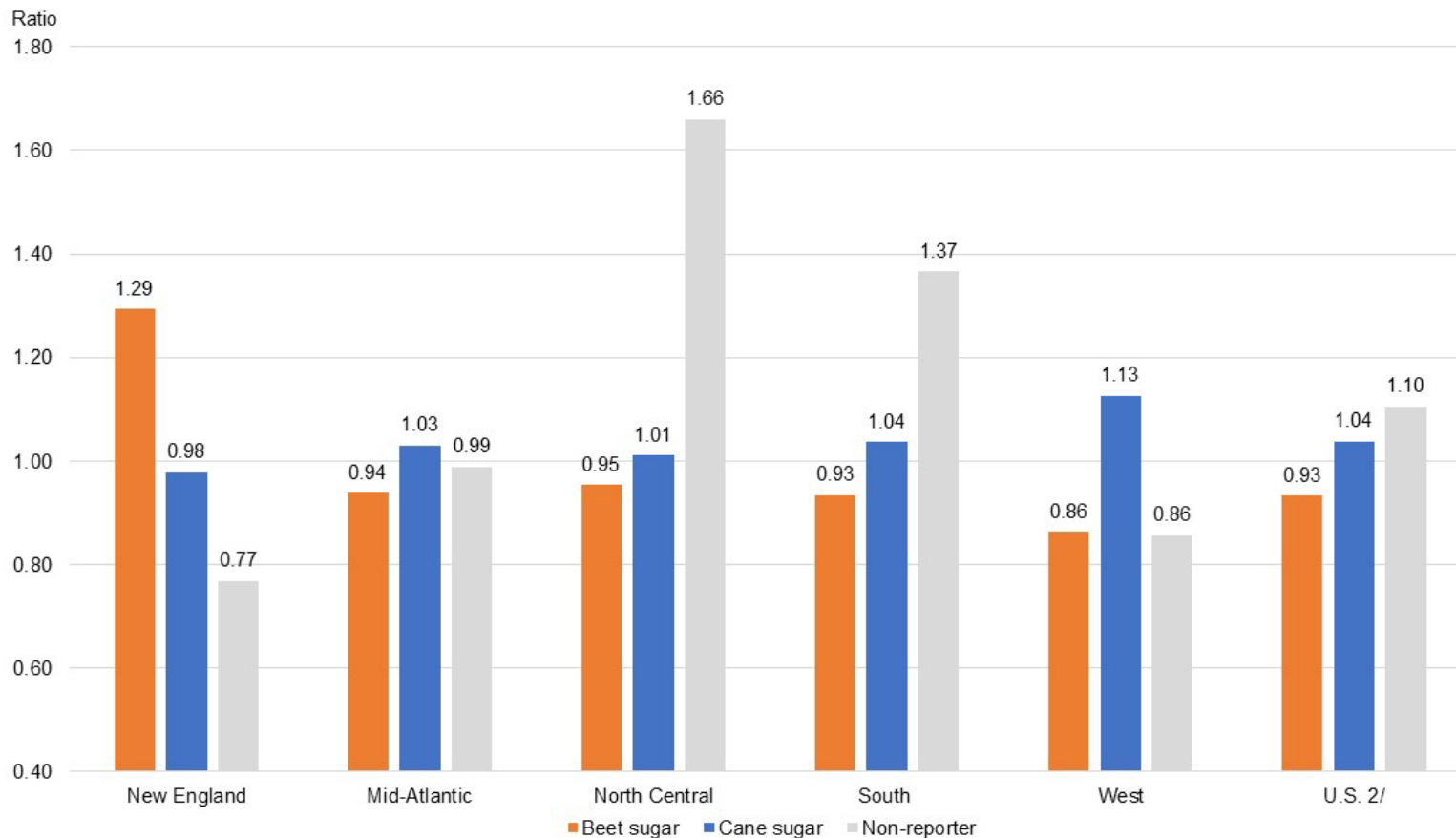


^{1/} The regional grouping is based on the Farm Service Agency, *Sweetener Market Data* report: **New England** - Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut; **Middle Atlantic** - New York, New Jersey, and Pennsylvania; **North Central** - Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; **South** - Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas; and **West** - Alaska, Hawaii, Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency *Sweetener Market Data* (beet and cane sugar) and from Department of Homeland Security, Customs and Border Protection, Automated Commercial Environment database (non-reporter).

Figure 12

Ratio of cumulative sugar deliveries in 2022/23 to 2021/22, October–June, by regions^{1/}



^{1/} The regional grouping is based on the Farm Service Agency, *Sweetener Market Data* report: **New England** - Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut; **Middle Atlantic** - New York, New Jersey, and Pennsylvania; **North Central** - Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; **South** - Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas; and **West** - Alaska, Hawaii, Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

^{2/} Excludes Puerto Rico.

Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency *Sweetener Market Data* (beet and cane sugar) and from U.S. Department of Homeland Security, Customs and Border Protection, Automated Commercial Environment database (non-reporter).

Table 6: Top 10 States^{1/} with port of entry for non-reporter sugar imports, 2021/22 and 2022/23, October–June

State or territory	Region ^{2/}	Imports (short tons, raw value or STRV)		Share in total (percent)	
		2021/22	2022/23	2021/22	2022/23
Texas	South	165,312	166,555	24	22
California	West	154,750	142,777	23	19
New York	Mid-Atlantic	122,818	130,567	18	17
Louisiana	South	25,088	101,192	4	14
Pennsylvania	Mid-Atlantic	91,852	81,463	13	11
Florida	South	31,308	35,053	5	5
Washington	West	36,283	27,943	5	4
Puerto Rico		30,047	23,864	4	3
Illinois	North Central	9,744	17,937	1	2
Alabama	South	11,527	15,717	2	2
Other States		5,618	4,157	1	1
Total		684,346	747,224	100	100

1/ The top ten ranking is based on the 2022/23 data and includes Puerto Rico.

2/ The region assignment is based from the *SMD* report.

Note: The State data are calculated using U.S. Customs and Border Protection (CBP) port of entry data. The resulting total lines (684,346 STRV in 2021/22 and 747,224 in 2022/23) differ from the non-reporter data published in the USDA, Farm Service Agency (FSA), *Sweetener Market Data (SMD)* report (663,278 and 748,492 respectively) due to timing of entry and methodology. The non-reporter data in the *SMD* is only available as an aggregate (not at the State or port of entry level) and is residually derived using a formula: non-reporter sugar imports are the difference between total imports reported by the Foreign Agricultural Service (FAS) and the total imports reported by the beet processors and cane refiners in the *SMD*.

Source: USDA, Economic Research Service calculations using data from U.S. Department of Homeland Security, Customs and Border Protection, Automated Commercial Environment database.

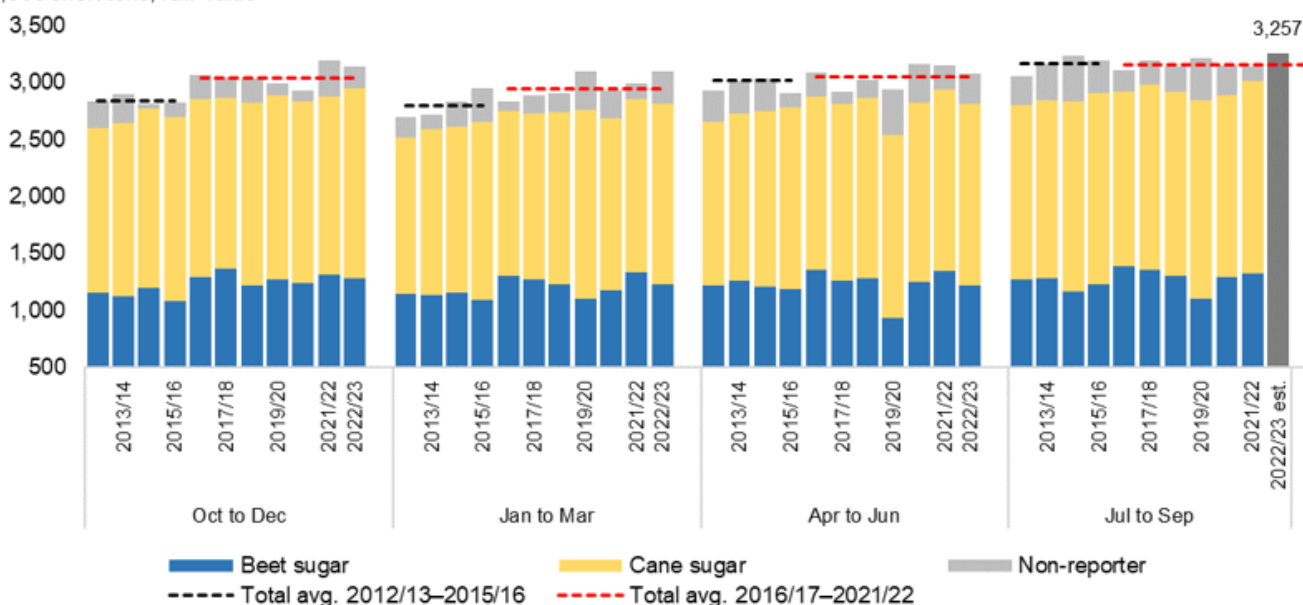
Larger Delivery in 2022/23 Fourth Fiscal Quarter To Meet Estimate

With SMD delivery data now available through June, there are now 3 fiscal year quarters of information. While the volume of food and beverage use deliveries in the first 2 fiscal quarters (October–December and January–March) have been above the 5-year average (red dotted line), deliveries were below average during the third quarter (April–June) (figure 13). As such, to meet the 12.575 million STRV estimate for 2022/23, deliveries in the last fiscal quarter (July–September) would need to be at least 3.257 million, which is about 100,000-STRV more than the 5-year average for this period.

Figure 13

U.S. sugar deliveries for food and beverage use, quarterly, 2012/13–2022/23

1,000 short tons, raw value



est. = estimate; avg. = average.

Source: USDA, Farm Service Agency.

However, cane sugar refiners can potentially accelerate deliveries in the final fiscal quarter, given their adequate raw and refined sugar inventories, particularly if the early beet sugar production falls below expectation due to weather (dry in rain-dependent Michigan and North Dakota, but wet in irrigated areas such as Colorado and Wyoming). In addition, the volume of deliveries, on average, is typically the largest during July–September ahead of the fall and holiday season. Thus, the undelivered supplies from the prior months can act as buffer if expected beet and cane sugar production (like the drought in Louisiana) falls below

expectations. Additionally, the increased pace of refined high-tier tariff imports is due, in part, to competitive pricing relative to refined beet and cane sugar. The increased pace has the potential to lift non-reporter deliveries where a significant portion of these imports are accounted for.

Mexico Outlook

Sugar Production in 2022/23 Finalized; Unchanged in 2023/24

Mexico's 2022/23 sugar production is finalized at 5,224,248 metric tons (MT) based on Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA) final production report that was released on August 1. This volume is 961,000-MT lower (16 percent) than last year's 6.185 million (table 7). It is also lower by 54,000 MT (1 percent) compared with 2019/20's 5.278 million, thus making it the lowest Mexican sugar production in the last decade (figure 14). Fourteen percent (730,207 MT) of the total sugar produced is comprised of sugar with polarity less than 99.2. The Special Article in the July 2023 Sugar and Sweeteners Outlook provides a more detailed discussion of the 2022/23 production campaign.

Meanwhile, the 2023/24 production forecast is unchanged from last month at 5.9 million MT, reflecting a 676,000-MT increase (13 percent) from 2022/23's record low production. There are concerns that the ongoing drought, particularly in the Pacific region, presents a risk to production. This region includes Jalisco, one of Mexico's top three producing States. The months-long drought during last year's growing season was one of the factors that led to poor sugarcane yields and sucrose recovery. However, the softening of prices for fertilizer and other inputs is projected to encourage higher application and improvements in crop management compared with last year. Timely rainfall before the start of harvest in November can minimize drought-related yield reduction. CONADESUCA usually publishes its initial production forecast in November.

Table 7: Mexican sugar: supply and use by fiscal year (October/September), August 2023

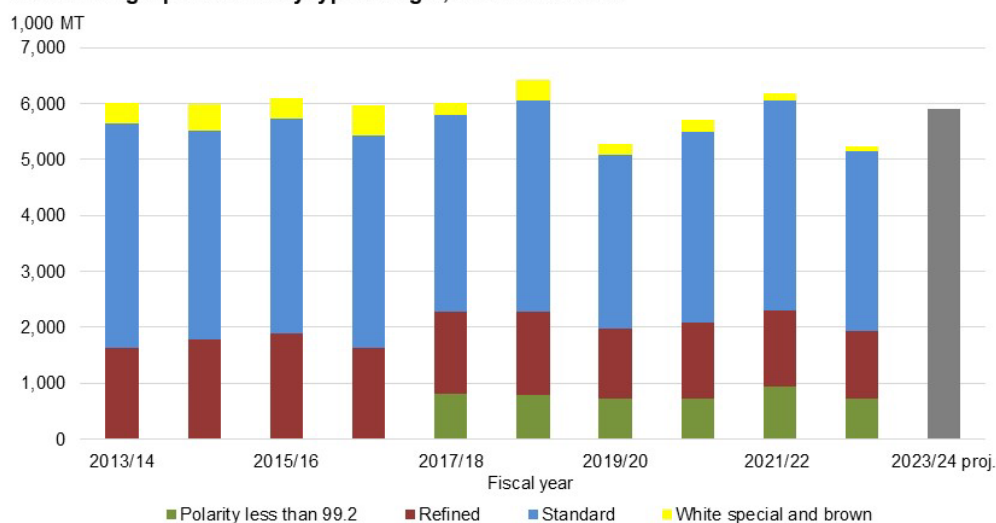
Items	2021/22	2022/23			2023/24		
		July (estimate)	August (estimate)	Monthly change	July (forecast)	August (forecast)	Monthly change
		1,000 metric tons, actual weight					
Beginning stocks	1,053	964	964	0	880	880	0
Production	6,185	5,224	5,224	0	5,900	5,900	0
Imports	31	75	200	125	45	45	0
Imports for consumption	7	50	175	125	20	20	0
Imports for sugar-containing product exports (IMMEX) 1/	24	25	25	0	25	25	0
Total supply	7,269	6,264	6,389	125	6,825	6,825	0
Disappearance							
Human consumption	4,113	4,085	4,085	0	4,139	4,139	0
For sugar-containing product exports (IMMEX)	532	273	359	87	450	450	0
Other deliveries and end-of-year statistical adjustment	-16	0	0	0	0	0	0
Total	4,629	4,357	4,444	87	4,589	4,589	0
Exports	1,676	1,027	1,065	38	1,348	1,348	0
Exports to the United States and Puerto Rico	1,180	1,006	1,043	37	1,272	1,272	0
Exports to other countries 2/	495	20	22	1	76	76	0
Total use	6,305	5,384	5,509	125	5,936	5,936	0
Ending stocks	964	880	880	0	888	888	0
Stocks-to-human consumption (percent)	23.4	21.5	21.5	0	21.5	21.5	0
Stocks-to-use (percent)	15.3	16.3	16.0	0	15.0	15.0	0
High-fructose corn syrup (HFCS) consumption (dry weight)	1,291	1,407	1,407	0	1,407	1,407	0

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

2/ Includes exports participating in the U.S. re-export programs.

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

Figure 14
Mexican sugar production by type of sugar, 2013/14–2023/24



MT = metric tons; proj. = projected.

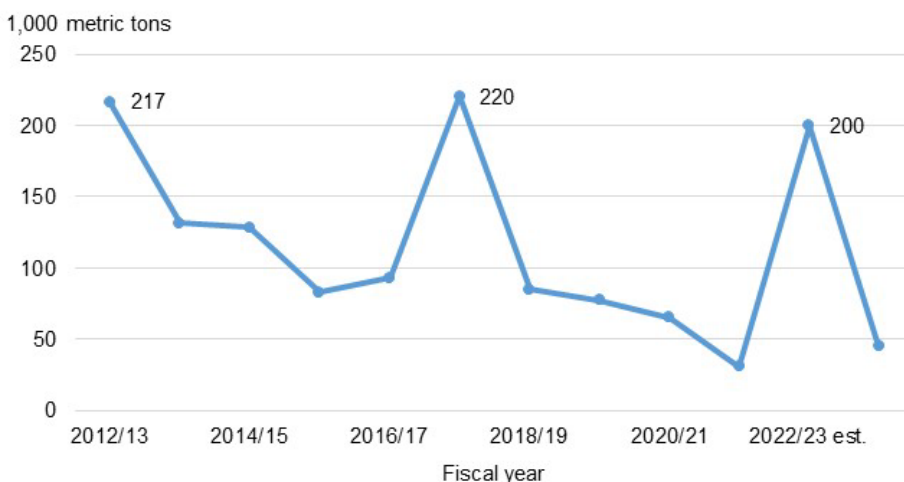
Note: Sugar with polarity less than 99.2 is produced starting in 2017/18 after the terms of the suspension agreements were revised. Breakdown by type is not yet available for 2023/24.

Source: USDA, World Agricultural Outlook Board, World Agricultural Supply and Demand Estimates (WASDE); Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Imports by Mexico in 2022/23 Raised Anew

Mexico's 2022/23 total imports are raised from last month by 125,000 MT to 200,000 based on official trade data through May showing increased pace and on the expectation that this trend will continue to hold. The updated estimate would be 169,000-MT larger (549 percent) than last year's 31,000 MT and the largest volume since 2017/18's 220,000 MT (figure 15).

Figure 15
Mexican total sugar imports, by fiscal year, 2012/13–2023/24



est. = estimated.

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

After the August *WASDE* was published, CONADESUCA released its July *Balance Nacional de Azúcar mensual, ciclo 2022/23* (Monthly National Sugar Balance, cycle 2022/23) which shows that imports between October–July at 169,608-MT. With 4 months still remaining, the estimate will be re-evaluated in next month's *WASDE*. The tight supply situation has been a factor in supporting both refined and standard sugar at current historic levels (figure 15), which in turn incentivize imports to meet domestic demand and fulfill U.S. and IMMEX contracts.

Data on countries' reported exports to Mexico is available in the Trade Data Monitor (TDM) database but lags the CONADESUCA by at least 1 month. The data between October 2022–June 2023 shows that countries exported 94,882 MT to Mexico. India, not a past regular origin, exported the largest volume to Mexico (49,144 MT or 52 percent share of the total) (figure 16). The next biggest exporter is Guatemala with 23,190 MT (24 percent), followed by Honduras (9,200 MT or 10 percent), El Salvador (4,879 MT or 5 percent), and the United States (4,763 MT or 5 percent).

Figure 15

Mexican and U.S. sugar prices, monthly, January 2013 to July 2023

U.S. cents per pound



U.S. = United States.

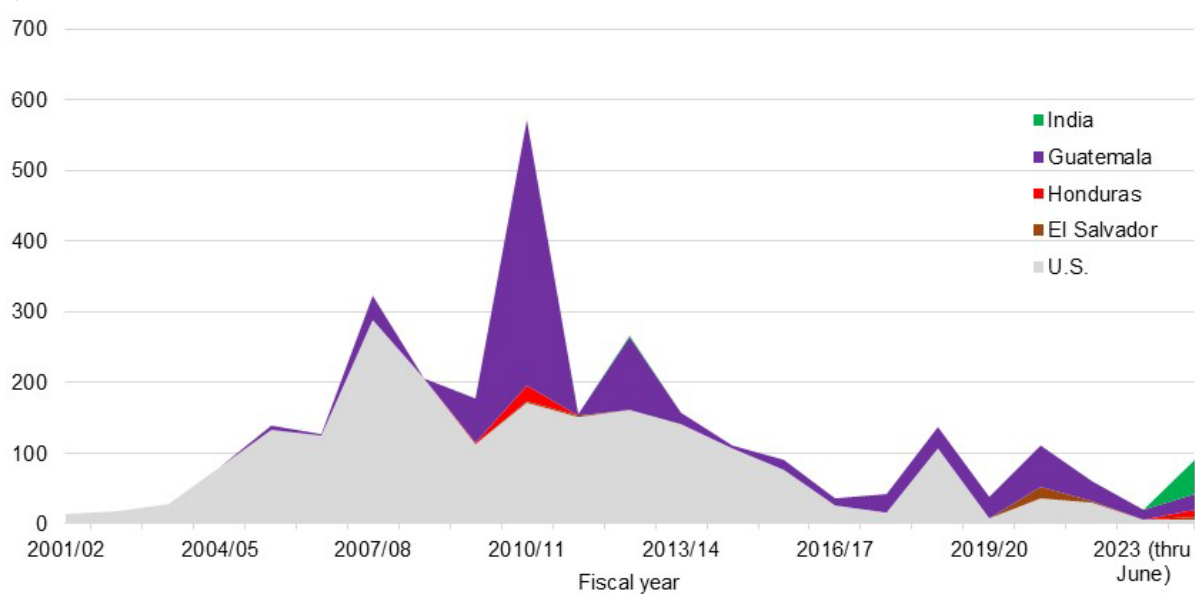
Note: The breaks in the Mexican sugar price series on June 2020 and January 2021 are due to data unavailability.

Source: USDA, Economic Research Service calculations using data from Intercontinental Exchange, Inc. (U.S. prices), Servicio Nacional de Información e Integración de Mercados (Mexican prices), and U.S. Federal Reserve Bank (exchange rates).

Figure 16

Countries' reported sugar exports to Mexico, 2001/02–2022/23

1,000 MT



MT = metric tons; proj. = projected.

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

Larger Outlook for 2022/23 Supply Translates to Larger Exports to United States and IMMEX Deliveries

The 125,000-MT increase in imports raises Mexico's 2022/23 total supply from last month by the same magnitude to 6.389 million MT. The supply increase translates to an increase in exports to the United States (37,000 MT) and other countries (1,400 MT), and IMMEX deliveries (86,600 MT).

Sugar exports to the United States in 2022/23 is raised by 37,000 MT from last month to 1.043 million, which is less than the March U.S. Needs calculation of 1.118 million MT by about 75,000 MT (7 percent). The 1.043 million-MT export ceiling is in effect due to the requirement that 70 percent of Mexico's total exports to the U.S. under the suspension agreements should be comprised of low polarity sugar. With only 730,207-MT of this sugar type produced, the total export to the U.S. is capped at 1.043 million MT.

Conversely, about 1,400 MT of the supply increase is added to the 2022/23 Mexican exports to other countries such that the updated volume of 21,860 MT would be consistent with CONADESUCA's latest report.

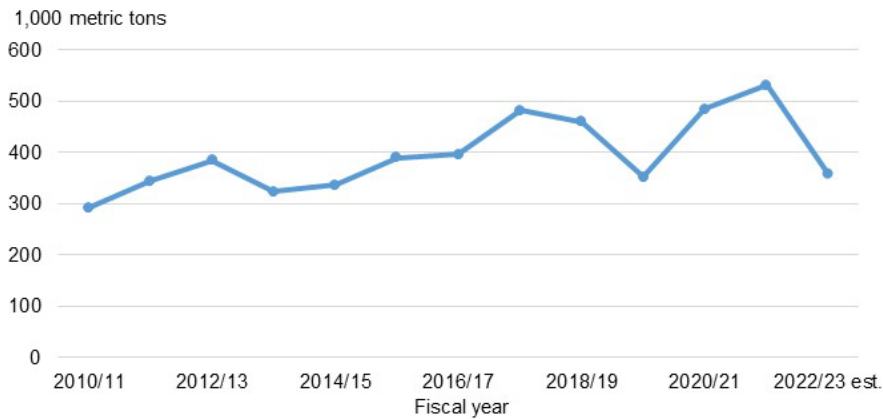
The rest of the supply increase (86,600 MT) passes through into IMMEX deliveries, increasing the 2022/23 estimate from 272,500 MT to 359,113. The revised estimate would still be 173,000-MT lower (32 percent) than last year (532,000 MT) and 103,000-MT lower (22 percent) than the 5-year average (103,000 MT) (figure 17).

2022/23 Ending Stocks Unchanged

Ending stocks in 2022/23 are unchanged at 880,000 MT, which is equivalent to 2.3-months' worth of total domestic deliveries (domestic market and IMMEX). The Government of Mexico typically targets ending stocks to equal to 2.5-months' worth of total deliveries. This was changed to 2.3-months' worth in CONADESUCA's April 20 publication of an updated (third estimate) sugar balance for Mexico. If realized, the current year's 880,000-MT inventory would be 85,000-MT lower (9 percent) than 2021/22, and would represent the second tightest market since 2014/15, behind 2019/20's 858,000 MT.

Figure 17

Mexican domestic IMMEX deliveries, 2010/11–2022/23



IMMEX = Industria Manufacturera, Maquiladora y de Servicios de Exportación; est. = estimated.
 Note: USDA includes Mexican imports for IMMEX into its IMMEX deliveries data. In contrast, CONADESUCA excludes imports of sugar for IMMEX in the “Ventas a IMMEX” line on its monthly sugar balance publication.
 Source: USDA, Economic Research Service calculations using data from Mexico’s National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

No Changes Made to the 2023/24 Outlook

Mexico’s 2023/24 supply-use ledger is unchanged from last month. Sugar production for Mexico is forecast at 5.9 million MT, reflecting a 676,000-MT increase (13 percent) from 2022/23’s record low production. As mentioned earlier, a lower-production scenario due to the ongoing drought is acknowledged and the forecast will be re-evaluated as more information becomes available. The 2023/24 import forecast stands at 45,000 MT, which aligns with recent years characterized with typical level of domestic sugar production. Of this total, 20,000 MT is assumed to go for domestic consumption, and the rest for IMMEX companies. As such, total supply in 2023/24 remains at 6.825 million MT, about 436,000-MT larger (7 percent) than 2022/23.

The 2023/24 export forecast is unchanged at 1.348 million MT, of which 1.272 million MT are forecast for the U.S. market. This volume represents the initial 2023/24 exports by Mexico to the United States calculated based on the anticipated U.S. Needs calculation using the July *WASDE* to achieve a U.S. ending stocks-to-use ratio of 13.5 percent. The second of the four recalculations of U.S. Needs will occur in September. The remaining 76,000 MT, also carried over from last month, is expected to be exported to the world market. With the 2023/24 total delivery remaining at 4.589 million MT, total use remains at 5.937 million. As such, ending stocks are unchanged at 888,000 MT, which is roughly equivalent to a 2.3-months’ worth of total domestic deliveries.

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