



Sugar and Sweeteners Outlook: October 2022

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U.S. Sugar Supply Raised in 2022/23, Mexican 2022/23 Production Reduced

The October 2022 *World Agricultural Supply and Demand Estimates (WASDE)* raised the 2022/23 U.S. sugar total supply from the previous month due to higher imports, as well as increased beginning stocks and production. Total imports for 2022/23 are up as the increases in raw refined tariff rate quotas (TRQ) offset the reduction due to the larger estimated shortfall in raw sugar TRQ and the earlier entry of sugar under the calendar year-basis free trade agreement TRQ. The larger 2022/23 beginning stocks mostly stem from stronger than expected early cane sugar production in Louisiana—accounted for in the 2021/22 ledger—and larger 2021/22 imports of Mexican and high-tier duty sugar than previously estimated. Increased sugar production in crop year 2022/23 is driven by the USDA, National Agricultural Statistics Service’s (NASS) higher projections for acreage and sugarcane yield in Louisiana, which compensate for the reduced beet sugar production due to lower than expected sugarbeet yield. With total use in 2022/23 unchanged, ending stocks are increased by 162,000 short tons, raw value (STRV) to 1.872 million STRV, thereby raising stocks-to-use ratio to 14.8 percent from last month’s 13.5 percent.

Mexico’s 2022/23 sugar production is reduced from last month by 100,000 metric tons to 5.9 million. As a result, total Mexican exports are reduced by a like amount. Ending stocks remain at 947,000 MT.

A section with an updated timeline of events surrounding U.S. Sugar Corporation’s efforts to acquire Imperial Sugar Company is also included in this outlook.

U.S. Outlook Summary

Outlook for 2022/23 U.S. Sugar Supply Increased

The October 2022 *WASDE* raised the 2022/23 U.S. sugar total supply from last month by 162,000 STRV to 14.537 million STRV mostly on higher imports, as well as increased beginning stocks and production (table 1). Total imports for 2022/23 are up 129,000 STRV to 3.610 million, as the increases in raw and refined TRQs offset the reduction due to the larger estimated shortfall in raw sugar TRQ and the earlier entry of sugar under the calendar year-basis free trade agreement (FTA) TRQ. The larger 2022/23 beginning stocks mostly stem from a stronger than expected early cane sugar production in Louisiana—accounted for in the 2021/22 ledger—and larger 2021/22 imports of Mexican and high-tier duty sugar than previously estimated. Increased sugar production in 2022/23 is driven by the USDA, NASS' higher projections for acreage and sugarcane yield in Louisiana, which compensate for reduced beet sugar production due to lower than expected sugarbeet yield. With total use for 2022/23 unchanged at 12.665 million, ending stocks are increased by 162,000 STRV to 1.872 million STRV, thereby raising the stocks-to-use ratio to 14.8 percent from last month's 13.5 percent.

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

| Items | 2020/21 | | 2021/22 | | | 2022/23 | |
|--|----------------------------|-------------------------|-----------------------|-------------------|-------------------------|-----------------------|-------------------|
| | | September (estimate) | October (estimate) | Monthly change | September (forecast) | October (forecast) | Monthly change |
| | 1,000 short tons raw value | | | | | | |
| Beginning stocks | 1,618 | 1,705 | 1,705 | 0 | 1,753 | 1,773 | 20 |
| Total production | 9,233 | 9,065 | 9,117 | 51 | 9,141 | 9,154 | 13 |
| Beet sugar | 5,092 | 5,102 | 5,078 | -24 | 5,119 | 5,106 | -13 |
| Cane sugar | 4,141 | 3,963 | 4,039 | 76 | 4,021 | 4,048 | 27 |
| Florida | 2,090 | 1,933 | 1,933 | 0 | 1,968 | 1,968 | 0 |
| Louisiana | 1,918 | 1,906 | 1,982 | 76 | 1,950 | 1,984 | 34 |
| Texas | 134 | 124 | 124 | 0 | 103 | 96 | -7 |
| Total imports | 3,221 | 3,673 | 3,644 | -30 | 3,481 | 3,610 | 129 |
| Tariff-rate quota imports | 1,749 | 1,648 | 1,579 | -69 | 1,562 | 1,691 | 129 |
| Other program imports | 292 | 300 | 298 | -2 | 250 | 250 | 0 |
| Non-program imports | 1,180 | 1,725 | 1,767 | 42 | 1,669 | 1,669 | 0 |
| Mexico | 968 | 1,355 | 1,379 | 23 | 1,619 | 1,619 | 0 |
| High-duty | 212 | 370 | 388 | 18 | 50 | 50 | 0 |
| Total supply | 14,072 | 14,443 | 14,465 | 22 | 14,375 | 14,537 | 162 |
| Total exports | 49 | 35 | 35 | 0 | 35 | 35 | 0 |
| Miscellaneous | 40 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total deliveries | 12,277 | 12,655 | 12,657 | 2 | 12,630 | 12,630 | 0 |
| Domestic food and beverage use | 12,161 | 12,550 | 12,550 | 0 | 12,525 | 12,525 | 0 |
| To sugar-containing products re-export program | 89 | 80 | 80 | 0 | 80 | 80 | 0 |
| For polyhydric alcohol, feed, other alcohol | 27 | 25 | 27 | 2 | 25 | 25 | 0 |
| Commodity Credit Corporation (CCC) for ethanol | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total use | 12,367 | 12,690 | 12,692 | 2 | 12,665 | 12,665 | 0 |
| Ending stocks | 1,705 | 1,753 | 1,773 | 20 | 1,710 | 1,872 | 162 |
| Private | 1,705 | 1,753 | 1,773 | 20 | 1,710 | 1,872 | 162 |
| Commodity Credit Corporation | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Stocks-to-use ratio (percent) | 13.8 | 13.8 | 14.0 | 0.2 | 13.5 | 14.8 | 1.3 |

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

Beet Sugar Production Reduced in 2021/22 and 2022/23

In its October 12 *Crop Production* report, the USDA, National Agricultural Statistics Service (NASS) lowered last month's yield forecast from 29 tons per acre to 28.8, with the largest reduction in Minnesota and Michigan offsetting increases in North Dakota, Nebraska, and Wyoming (table 2). This reflects a 13.3-percent decline from last year's record high of 33.2 tons per acre and would be the lowest since 2014/15 (27.3 tons). With the yield decrease, 2022/23 sugarbeet production is reduced from last month by 282,000 short tons (3.1 percent) to 33.069 million (table 3). USDA, NASS did not update the area harvested to sugarbeets.

Assuming a normal amount of shrinkage of beets in piles before they are sliced in the factories (6.7 percent)—unchanged from last month—the estimate for sliced sugarbeets is raised to 30.852

million short tons (table 2). With the percentage of sugar recovered from the sliced sugarbeets (14.6 percent based on historical average) and the quantity of sugar extracted from molasses (360,000 STRV) also both unchanged from last month, beet sugar extracted in crop year 2022/23 (August–July) is projected at 4.872 million STRV. This is 38,000-STRV lower (0.8 percent) than last month and would imply a 7.7 percent reduction from the prior crop year.

Table 2: Sugarbeet yields, 2018/19–2022/23

| State | 2018/19 | 2019/20 | 2020/21 | 2022/23 proj. | | | | Monthly change | Annual change |
|--------------|---------|---------|---------|---------------|--------|-----------|---------|----------------|---------------|
| | | | | est. | August | September | October | | |
| | | | | Tons per acre | | | | | Percent |
| Minnesota | 25.7 | 25.0 | 26.1 | 31.0 | 25.4 | 25.8 | 25.3 | -0.5 | -18 |
| North Dakota | 28.8 | 26.0 | 24.9 | 29.2 | 25.6 | 25.4 | 25.7 | 0.3 | -12 |
| Idaho | 40.5 | 39.0 | 40.5 | 39.5 | 39.0 | 39.0 | 39.0 | 0.0 | -1 |
| Michigan | 29.1 | 28.6 | 28.3 | 37.4 | 31.0 | 30.8 | 29.9 | -0.9 | -20 |
| Nebraska | 31.9 | 25.4 | 31.0 | 31.9 | 30.6 | 25.7 | 25.8 | 0.1 | -19 |
| Montana | 31.1 | 31.6 | 31.3 | 29.8 | 30.0 | 30.0 | 29.5 | -0.5 | -1 |
| Wyoming | 30.8 | 28.3 | 29.6 | 29.5 | 29.4 | 27.3 | 27.9 | 0.6 | -5 |
| Colorado | 32.6 | 30.7 | 31.3 | 33.7 | 29.6 | 28.6 | 27.9 | -0.7 | -17 |
| California | 48.8 | 45.4 | 46.6 | 46.0 | 46.7 | 46.7 | 46.7 | 0.0 | 1 |
| Oregon | 39.4 | 38.5 | 40.9 | 37.9 | 38.5 | 38.1 | 37.9 | -0.3 | 0 |
| Washington | 48.3 | 45.5 | 47.9 | 45.8 | 46.0 | 45.5 | 45.5 | 0.0 | -1 |
| U.S. total | 30.4 | 29.2 | 29.4 | 33.2 | 29.2 | 29.0 | 28.8 | -0.2 | -13.3 |

est. = estimated; proj. = projected.

Source: USDA, National Agricultural Statistics Service.

Table 3: Beet sugar production calculations, 2019/20–2020/23

| | 2020/21 | 2021/22 | 2021/22 | Monthly | 2022/23 | 2022/23 | Monthly |
|--|---------|-----------|---------|---------|-----------|---------|---------|
| | | September | October | change | September | October | change |
| Sugarbeet production (1,000 short tons) 1/ | 33,610 | 36,751 | 36,751 | 0 | 33,351 | 33,069 | -282 |
| Sugarbeet shrink (percent) | 6.60 | 7.9 | 7.9 | 0.0 | 6.7 | 6.703 | 0.0 |
| Sugarbeet sliced (1,000 short tons) | 31,392 | 33,850 | 33,850 | 0 | 31,116 | 30,852 | -263 |
| Sugar extraction rate from slice (percent) | 15.34 | 14.587 | 14.587 | 0 | 14.6 | 14.6 | 0 |
| Sugar from beets sliced (1,000 STRV) 2/ | 4,817 | 4,938 | 4,938 | 0 | 4,551 | 4,512 | -38 |
| Sugar from molasses (1,000 STRV) 2/ | 362 | 340 | 341 | 1 | 360 | 360 | 0 |
| Crop year sugar production (1,000 STRV) 2/ | 5,181 | 5,278 | 5,278 | 1 | 4,911 | 4,872 | -38 |
| Aug.–Sep. sugar production (1,000 STRV) | 765 | 676 | 676 | 0 | 500 | 475 | -25 |
| Aug.–Sep. sugar production of subsequent crop (1,000 STRV) | 676 | 500 | 475 | -25 | 678 | 678 | 0 |
| Sugar from imported beets (1,000 STRV) 3/ | N/A | N/A | N/A | N/A | 30 | 30 | 0 |
| Fiscal year sugar production (1,000 STRV) | 5,092 | 5,102 | 5,078 | -24 | 5,119 | 5,106 | -13 |

STRV = short tons, raw value; NA = not applicable.

1/ USDA, National Agricultural Statistics Service.

2/ August–July.

3/ Sugar from imported beets in 2020/21 and 2021/22 are already included in the crop year production. Typically, this component is separated for projections and included in total once full crop year slice is available.

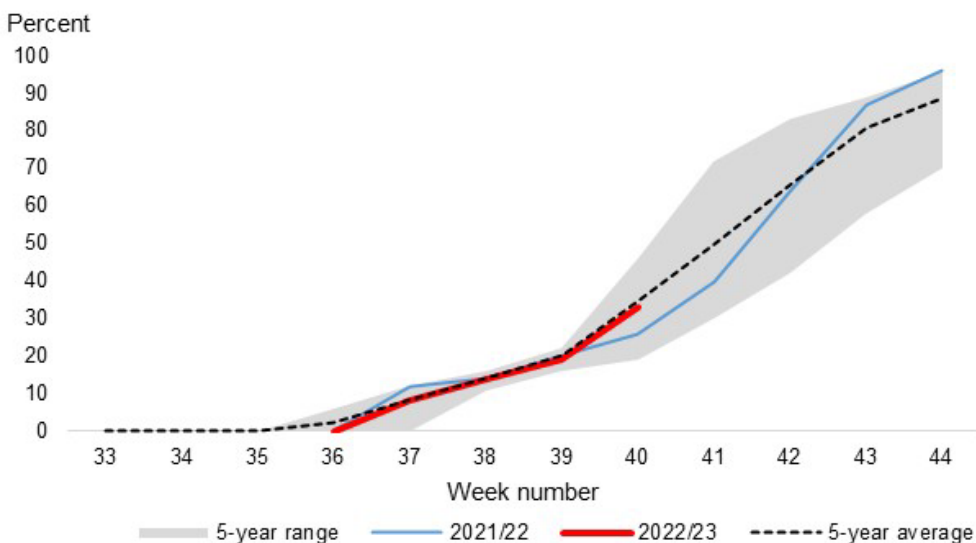
Source: USDA, Economic Research Service; USDA, World Agricultural Outlook Board; USDA, Farm Service Agency.

To convert this to fiscal year 2022/23 (October–September), the forecast for August and September 2023 production is added (678,000 STRV), the updated August and September 2022 production is subtracted (475,000), and the estimated sugar from imports of Canadian sugarbeets is added (30,000). The resulting total is 5.106 million STRV, slightly down by 13,000

STRV (0.3 percent) from last month and comparable to last year's 5.077 million STRV.

The national harvest pace as of October 9 (week 40) is slightly behind the 5-year average (figure 1). This reflects the relatively late spring planting, particularly in Minnesota and North Dakota, which in turn delayed the harvest start date to allow sugarbeets more time to grow and deposit sugar. Warm conditions in August and September have also delayed the harvest campaign in some areas, such as in Idaho, despite having a timely spring planting. The slower rate of harvest is expected to affect early season sugar production, which is accounted for in the fiscal year (FY) 2021/22 balance sheet. Based on the processors' estimates to the USDA, Farm Service Agency's (FSA) *Sweetener Market Data (SMD)*, August–September 2022 sugar production is reduced by 25,000 STRV to 475,000, the lowest since 2014/15 (table 4). As such, the FY 2021/22 beet sugar production is reduced by about the same amount (minus a small, upward revision to sugar produced from molasses) to 5.078 million STRV (table 3).

Figure 1
U.S. sugarbeet weekly harvest progress, 2017/18–2022/23



Source: USDA, National Agricultural Statistics Service.

Given that actual August production reported in the *SMD* is 105,134 STRV, the August–September 2022 estimates of 475,000 STRV implies a residual September production of about 370,000 STRV, also the lowest since 2014/15 (table 4). This amount is likely subject to change next month when the *SMD* publishes the actual September production.

Table 4. Early season beet sugar production, 2008/09–2022/23

| Calendar Year | August | September | Total | August share in total | September share in total |
|-----------------|-----------------------------|-----------|-------|--------------------------|-----------------------------|
| | 1,000 short tons, raw value | | | Percent | |
| 2008 | 73 | 216 | 289 | 0.25 | 0.75 |
| 2009 | 52 | 343 | 396 | 0.13 | 0.87 |
| 2010 | 161 | 461 | 623 | 0.26 | 0.74 |
| 2011 | 71 | 223 | 294 | 0.24 | 0.76 |
| 2012 | 179 | 524 | 703 | 0.25 | 0.75 |
| 2013 | 46 | 270 | 315 | 0.14 | 0.86 |
| 2014 | 62 | 399 | 461 | 0.13 | 0.87 |
| 2015 | 175 | 513 | 688 | 0.25 | 0.75 |
| 2016 | 148 | 459 | 606 | 0.24 | 0.76 |
| 2017 | 173 | 542 | 715 | 0.24 | 0.76 |
| 2018 | 144 | 511 | 655 | 0.22 | 0.78 |
| 2019 | 144 | 438 | 582 | 0.25 | 0.75 |
| 2020 | 191 | 574 | 765 | 0.25 | 0.75 |
| 2021 | 114 | 562 | 676 | 0.17 | 0.83 |
| 2022 est. | 105 | 370 | 475 | 0.22 | 0.78 |
| 10-year average | 131 | 456 | 587 | 0.22 | 0.78 |

est. = estimate.

Source: USDA, Farm Service Agency.

Louisiana Cane Sugar Production Raised in Both 2021/22 and 2022/23

Based on Louisiana cane processors' reporting to *SMD*, the estimate for early season (September) production is increased by 76,000 STRV. Since this early season production for crop year 2022/23 is accounted for in the prior fiscal year, U.S. cane sugar production in 2021/22 is raised by the same amount to 4.039 million STRV. Note that this estimate will be finalized next month when *SMD* publishes the actual September sugar production.

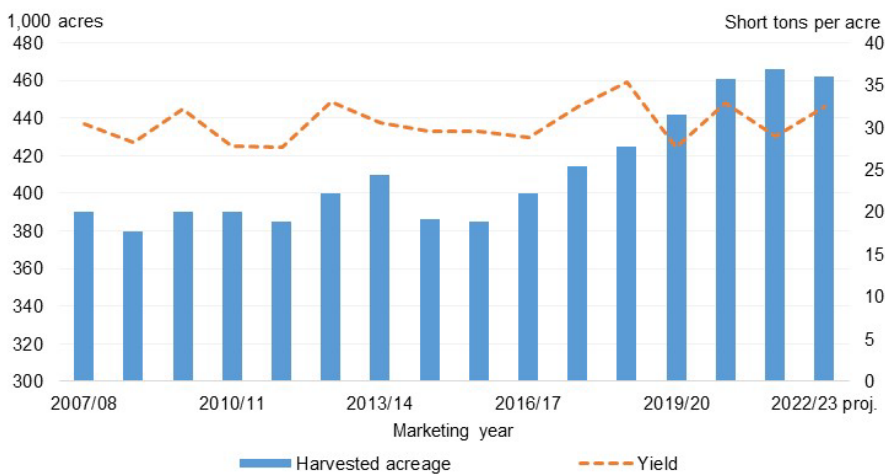
For FY 2022/23, cane sugar production is increased 27,000 STRV to 4.048 million as the 27,000-STRV increase in cane sugar production Louisiana offsets the 7,000-STRV decline in Texas.

In the October *Crop Production* report, USDA, NASS increased its 2022/23 yield projection for Louisiana from last month to 32.5 tons per acre (2.2 percent) (figure 2). USDA, NASS also raised last month's area harvested for sugar and seed by 3,000 acres to 492,000 (0.6 percent). The combination of these upward changes result in a 2022/23 crop year production of 2.005 million STRV, a new record. Subtracting the September 2022 production (76,000 STRV) from this amount (2.005 million), then adding the projection for September 2023 (55,000) result in a

fiscal year sugar production of 1.984 million. If realized, this would also set a record, surpassing last year's 1.982 million STRV.

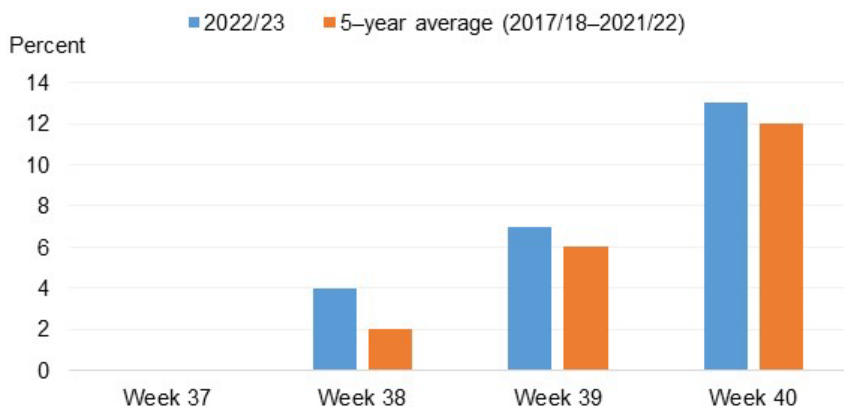
The absence of tropical storms or hurricanes making landfall in Louisiana allowed several processors to start their harvest campaign by the third week of September. As seen in the weekly USDA, NASS crop harvest progress reports for Louisiana, this year's pace has been slightly ahead of the 5-year average. As of the most recent week (week 40, which ended on October 9), 13 percent of the crop has been harvested versus the 5-year average of 12 percent (figure 3).

Figure 2
Louisiana harvested area for sugar and yields, 2007/08–2022/23



proj. = projected.
 Source: USDA, National Agricultural Statistics Service.

Figure 3
Louisiana sugarcane, percent harvested 1/



1/ Week 40 was October 9 in 2022; exact dates vary by year.
 Source: USDA, National Agricultural Statistics Service (NASS).

On other hand, based on processor reporting to *SMD*, Texas 2022/23 cane sugar production is reduced by 7,000 STRV from last month to 96,000. This would be the State's lowest level since 2000/01 and the first time sugar production has fallen below 100,000 STRV since 1997/98. USDA, NASS' reduction of yield and area harvested in its *Crop Production* report corroborates these estimates.

Florida's 2022/23 sugar production is unchanged from last month at 1.968 million STRV. Both USDA, NASS and the processors are still assessing the damage in the aftermath of Hurricane Ian, which made landfall in Florida on September 28. The strong winds mostly missed the sugar cane fields, which are mainly along and below the southern half of Lake Okeechobee in Southern Florida. The 4 sugarcane mills and 2 cane refineries were also undamaged. However, cane harvest, which usually starts around October 1, was delayed due to heavy rainfall leaving the fields too wet.

Total Imports Up in 2022/23; High-tier Imports Raised in 2021/22

Total imports for 2022/23 are up 129,000 STRV to 3.610 million, mainly driven by increases in raw and refined TRQs, which offset the reduction due to the larger estimated shortfall in raw sugar TRQ (155,000 STRV) and the earlier entry of sugar under the calendar year-basis FTA TRQ (10,000 STRV).

Due to USDA's action on September 8 to extend entry until December 31, the raw sugar TRQ is increased by 77,000 STRV because the portion of 2021/22 imports that were supposed to arrive in September are now expected to come between October and December. The refined sugar TRQ increased 217,000 STRV after USDA announced, on September 15, the FY 2022/23 refined sugar TRQ at 242,508 STRV (220,000 metric tons, raw value or MTRV). This quota includes an additional specialty sugar TRQ, which is set at 220,462 STRV (200,000 MTRV). On September 19, the U.S. Trade Representative published the in-quota allocation among the supplying countries.

The raw cane sugar TRQ shortfall is increased by 155,000 STRV based on the recently published Philippines Sugar Semi-Annual report from USDA's Foreign Agricultural Service

(FAS) post in Manila. The report indicated that the Philippines—the third largest TRQ holder after the Dominican Republic and Brazil—will not export. In response to lower sugarcane production, the Philippine government released Sugar Order No.1 on September 13, which that allocated 100 percent of sugar production to domestic consumption.

Total imports for 2021/22 are reduced 30,000 STRV as the decrease in raw sugar TRQ imports mostly offset the larger 2021/22 imports of Mexican and high-tier duty sugar than previously estimated. As discussed above, USDA's action to extend the 2021/22 raw sugar TRQ imports have shifted the timing of about 77,000 STRV sugar from entering in September to October–December.

On its October *Sugar Monthly Import and Re-Export Data* report, USDA, FAS increased its 2021/22 estimate of sugar imported from Mexico from last month by 24,000 STRV to 1.379 million. USDA, FAS also raised its 2021/22 estimate of high-tier sugar imports by 18,000 STRV to 388,000, which is 180,619 (87 percent) larger than the previous high of 207,381 in 2009/10. High-tier sugar imports are not subject to any U.S. quota import restrictions and can be brought into the country as long as the out-of-quota tariff is paid (15.36 cents per pound for raw sugar and 16.21 cents per pound for refined sugar). Traditionally, high-tier imports are composed of high-value, refined sugar that are difficult to source domestically.

However, based on the U.S. Department of Commerce, Bureau of the Census trade¹ data between October 2021 and August 2022, raw cane sugar made up about 65 percent of high-tier tariff imports,² followed by refined sugar at 29 percent and specialty sugar (including organic sugar) at 6 percent (table 5). Relatively large quantities of high-duty raw sugar, ranging between 30,000 to 65,000 STRV, arrived in 5 out of the 11 months (figure 4). Virtually all the raw sugar was brought into ports where import-dependent refiners are located: Savannah, Georgia (72 percent); Philadelphia, Pennsylvania (18 percent); and San Francisco, California (9 percent). Unlike the vertically integrated refiners, import-dependent refiners do not have a dedicated domestic cane processor that can reliably provide the raw throughput. The top 3 origins of the high-duty raw are sugar are Brazil (49 percent), Guatemala (21 percent), and Nicaragua (14 percent).

¹ The data can be downloaded from the U.S. International Trade Commission's *DataWeb*.

² 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, 1702.90.2000, and 2106.90.4600 for refined sugar; 1701.99.5015 and 1701.99.5017 for specialty sugar including organic.

Table 5. High-tier sugar imports by type of sugar, U.S. port, and country of origin, 2021/22

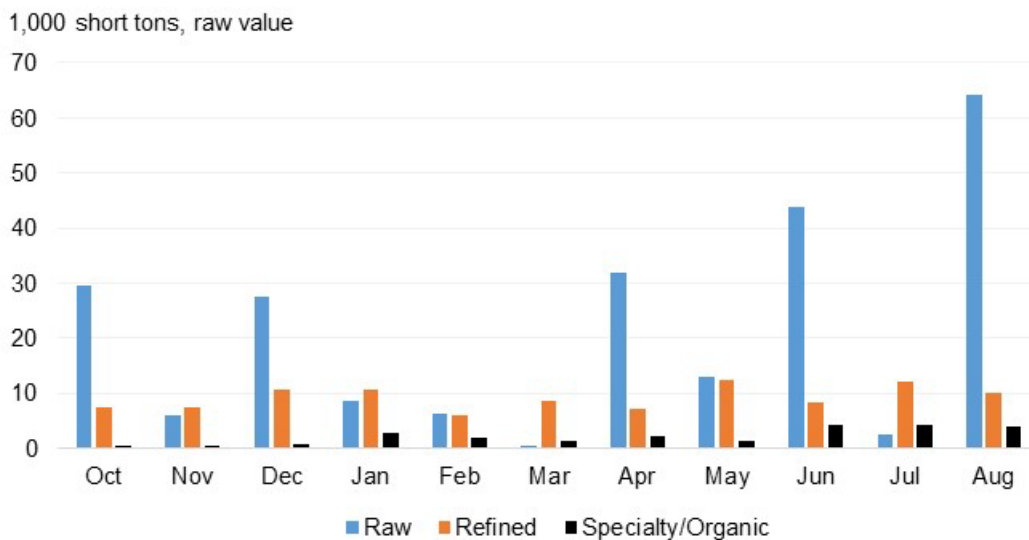
| | Oct. 2021–Aug. 2022 Short tons, raw value | Share in total Percent |
|--------------------------|--|---------------------------|
| Type | | |
| Raw | 233,265 | 65 |
| Refined | 102,712 | 29 |
| Specialty/Organic | 22,591 | 6 |
| Total | 358,568 | 100 |
| U.S. port | | |
| Raw | | |
| Savannah, GA | 167,931 | 72 |
| Philadelphia, PA | 42,259 | 18 |
| San Francisco, CA | 21,913 | 9 |
| Rest | 1,162 | 0 |
| Total | 233,265 | 100 |
| Refined | | |
| Seattle, WA | 33,671 | 33 |
| Philadelphia, PA | 16,479 | 16 |
| Buffalo, NY | 9,015 | 9 |
| Rest | 43,547 | 42 |
| Total | 102,712 | 100 |
| Specialty/Organic | | |
| New York, NY | 8,079 | 36 |
| Los Angeles, CA | 3,772 | 17 |
| Houston-Galveston, TX | 5,424 | 24 |
| Rest | 5,316 | 24 |
| Total | 22,591 | 100 |
| Country of origin | | |
| Raw | | |
| Brazil | 114,355 | 49 |
| Guatemala | 49,501 | 21 |
| Nicaragua | 31,807 | 14 |
| Rest | 37,602 | 16 |
| Total | 233,265 | 100 |
| Refined | | |
| Brazil | 32,666 | 32 |
| Guatemala | 23,473 | 23 |
| El Salvador | 15,255 | 15 |
| Rest | 31,319 | 30 |
| Total | 102,712 | 100 |
| Specialty/Organic | | |
| Brazil | 13,165 | 58 |
| China | 2,982 | 13 |
| Paraguay | 1,698 | 8 |
| Rest | 4,745 | 21 |
| Total | 22,591 | 100 |

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, 1702.90.2000, and 2106.90.4600 for refined sugar; 1701.99.5015 and 1701.99.5017 for specialty sugar including organic.

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*.

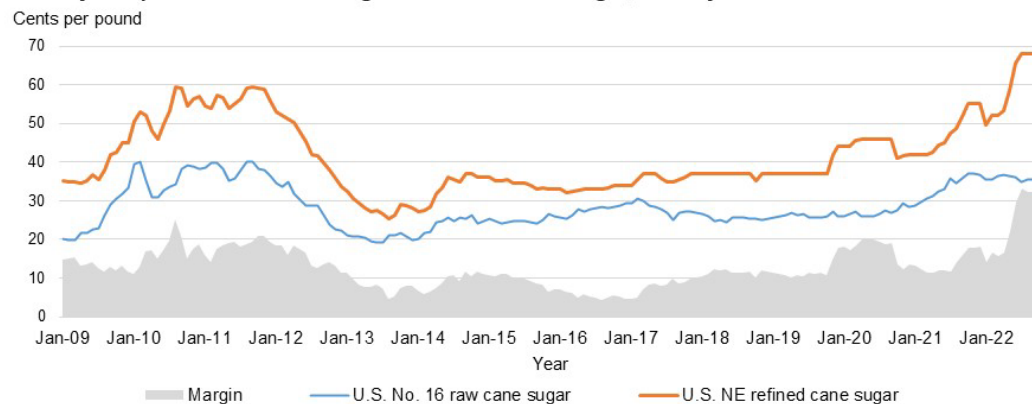
One explanation is that amid the current inflationary environment, logistical bottlenecks, and increased shortfall from TRQ-supplying countries such as the Philippines, import-dependent refiners are incentivized to compete and secure raw supplies to maintain refining capacity and fulfill customers' orders. It can also imply that the actual logistic costs of bringing in this sugar may be lower than thought, perhaps due to efficiencies gained over the sustained period of high-tier imports, which started increasing since 2017/18. In addition, while the margins between the world No. 11 and the U.S. No. 16 raw cane sugar nearby settlement prices are not wide enough to offset the costs of bringing in high-tier imports (15.36 cents per pound duty, plus a rough estimate of 3.2 cents per pound for logistics costs), it can be the case that high U.S. refined cane sugar prices over a sustained period have provided incentives. The historically high prices have led to wide cane refiner margins—the difference between refined and raw cane prices—particularly since May 2022. This could have allowed the acquisition of high-tier raw sugar imports since the refiner can recoup the raw sugar input costs (figure 5).

Figure 4
High-tier sugar imports by type of sugar, Oct. 2021–Aug. 2022



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
Monthly U.S. prices for raw cane sugar and refined cane sugar, January 2009 to October 2022



NE = Northeast.
 Sources: Sosland Sweetener Report for U.S. refined cane sugar; Intercontinental Exchange, Inc for the U.S. raw cane sugar.

Deliveries Unchanged in 2021/22 and 2022/23

Sugar deliveries for food and beverage use in 2021/22 and 2022/23 are both unchanged at 12.550 million and 12.525 million STRV, respectively. If realized, the former would set a record, and the latter the second-highest total on record.

Sugar deliveries for most of 2021/22 across all three entities have been relatively strong. Through August, 11.492 million STRV of sugar has been delivered, which is about 322,000 STRV higher (2.9 percent) than the same period in 2020/21 (table 6). With 1 month of data remaining before the final fiscal year numbers are published in the USDA, FSA's *Sweetener Market Data (SMD)* report, a 1.058 million STRV delivery in September would reach the estimated 12.550 million, which is close to the 5-year average.

Table 6: Food and beverage deliveries, October–August, 2016/17–2021/22

| | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | Annual change | |
|--------------------------------------|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|
| | 1,000 short tons, raw value (STRV) | | | | | | 1,000 STRV | Percent |
| Beet sugar processors | 4,911 | 4,847 | 4,612 | 3,992 | 4,514 | 4,889 | 375 | 8.3 |
| Cane sugar refiners | 5,542 | 5,619 | 5,729 | 6,079 | 5,779 | 5,813 | 35 | 0.6 |
| Non-reporter (direct consumption) | 690 | 571 | 699 | 1,032 | 878 | 790 | -88 | -10.0 |
| Total (Oct. 2021 to Aug.2022) | 11,143 | 11,037 | 11,040 | 11,102 | 11,171 | 11,492 | 322 | 2.9 |
| Final fiscal year deliveries | 12,102 | 12,048 | 12,106 | 12,250 | 12,161 | 12,550 | 389 | 3.2 |
| Sep. 2022 deliveries 1/ | 959 | 1,011 | 1,066 | 1,148 | 990 | 1,058 | 67 | 6.8 |

1/ For 2021/22, final fiscal year deliveries is an estimate, and September deliveries is the residual to reach it.

Source: USDA, Farm Service Agency.

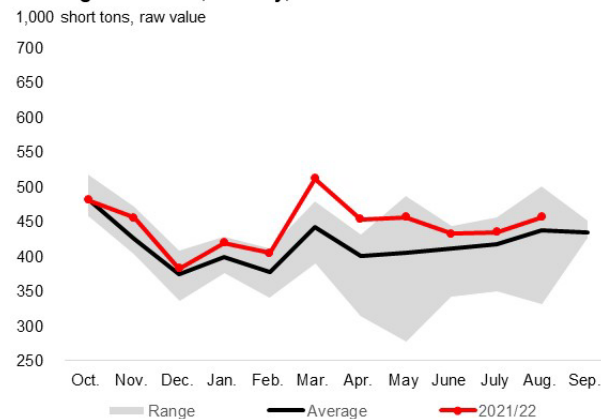
Beet sugar deliveries continue to be the main driver of 2021/22 total deliveries, with monthly deliveries mostly larger than either the average or the prior record high in the last 5 years for that month (figure 6). As a result, cumulative deliveries through August—4.889 million STRV—is

about 375,000 STRV more (8.7 percent) than the same period last year, surpassing the prior record high of 4.911 million STRV in 2016/17 (table 6). Cane sugar cumulative deliveries through August—5.813 million STRV—were only second to the record-high 6.079 million STRV in 2019/20. This was the year cane refiners increased their deliveries to offset weather-reduced beet sugar production. Together, the beet processors and cane refiners have delivered 9.681 million STRV of sugar to date, overtaking 2016/17’s 9.405 million STRV. The 2021/22 cumulative pace of non-reporter deliveries of 790,000 STRV, while below the record levels set in the last 2 years, are still relatively strong when a longer period is considered.

Inventories held by sugarbeet processors are both lower than last year and the 5-year average by 61,000 STRV (8 percent) and 73,000 STRV (12 percent), respectively, which is unexpected given the consistent, strong pace of beet sugar deliveries throughout the year (figure 8).

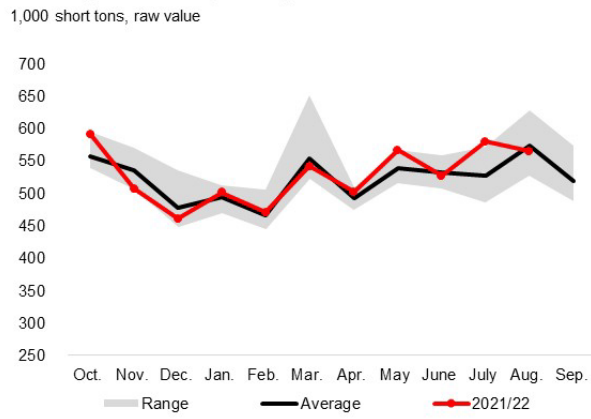
Meanwhile, the raw and refined stocks held by cane refiners are relatively larger than last year by 164,000 STRV (23 percent) and the 5-year average by 65,000 STRV (9 percent) (figure 9). This situation likely reflects the impact of the actions USDA took in 2021/22 to increase the availability of raw sugar throughput.

Figure 6
Beet sugar deliveries, monthly, 2016/17 to 2021/22



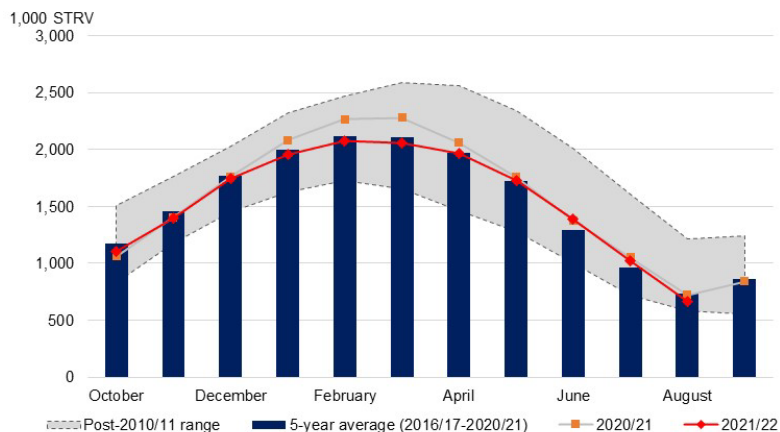
Source: USDA, Farm Service Agency.

Figure 7
Cane sugar deliveries, monthly, 2016/17 to 2021/22



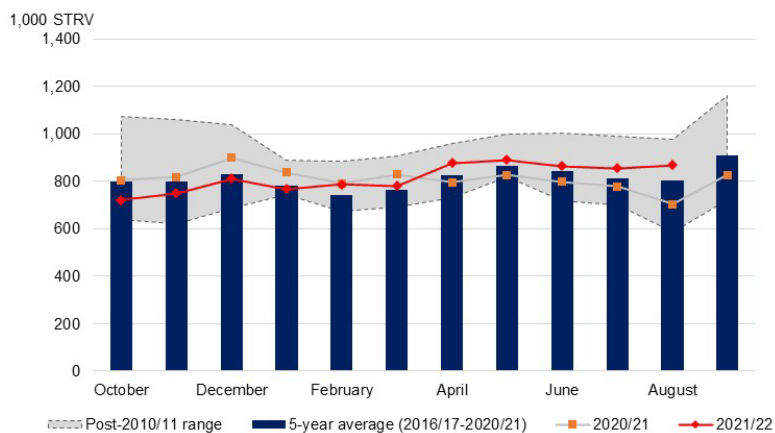
Source: USDA, Farm Service Agency.

Figure 8
Sugarbeet processors' total sugar inventories, monthly, 2015/16 to 2021/22



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

Figure 9
Sugarcane refiners' total sugar inventories (raw and refined), monthly, 2015/16 to 2021/22



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

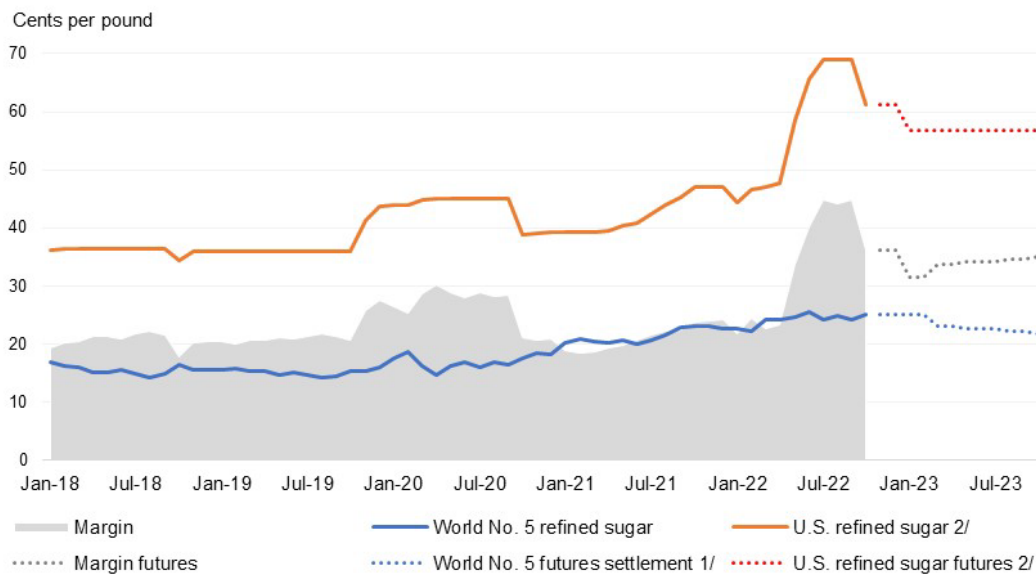
U.S. Sugar Prices Likely To Remain High in 2022/23

Sosland's *Milling and Baking News*, the source USDA uses for U.S. refined sugar prices, reported in its October 12 issue that the Midwest refined beet sugar price is 55 cents per pound (13–16 cents more than the same time last year). Sosland indicated this is reflective of the well-sold status of most processors, and thus lack of offers; though one processor did re-enter the market, it has only been offering supplies on a limited basis. U.S. prices for refined cane sugar have trended in a similar direction, with Northeast refined cane sugar at 59 cents per pound, up 10 cents from last year. As such, the margin between the U.S. refined sugar price and the

nearby world No. 5 refined sugar is about 36 cents per pound, and over 30 cents per pound for futures prices out to September 2023 (figure 10). Note that this margin is almost double the high-tier tariff for refined sugar of 16.2 cents per pound.

The No. 16 U.S. raw cane sugar price has remained above 34.5 cents per pound since July 2022 and futures prices out to September 2023 hover at 35 cents per pound. Thus, U.S. raw cane sugar prices are higher than the world raw cane sugar prices (No. 11) by 16–18 cents per pound into 2022/23, which is in the ballpark of the high-duty for raw sugar of 15.3 cents per pound.

Figure 10
U.S. and world refined sugar prices and margin, monthly, January 2018–October 2023



Note: Data on U.S. Northeast refined cane sugar are only available starting January 2018.
 1/ Nearby futures, No. 5 contract, Intercontinental Exchange Inc., and futures price settlements on 10/13/2022 through October 2023.
 2/ Average of Midwest refined beet sugar and Northeast refined cane sugar price and futures as quoted in Milling and Baking News on 7/13/2022 through October 2023.
 Sources: *Milling and Baking News*; Intercontinental Exchange, Inc.

Figure 11
U.S. and world refined sugar prices and margin, monthly, January 2018–October 2023



Note: No. 11 and No. 16 contract futures settlement prices, Intercontinental Exchange Inc., on 7/13/2022 out to October 2023.
 Source: USDA, Economic Research Service; Intercontinental Exchange, Inc.

Timeline of Events: U.S. Sugar–Imperial Sugar Merger

On March 24, 2021, the Florida-based U.S. Sugar Corporation (U.S. Sugar) announced its plan to acquire the Imperial Sugar Company (Imperial Sugar), which is owned by the Louis Dreyfus Company. U.S. Sugar grows sugarcane and operates a sugarcane milling and a cane sugar refining facility in Clewiston, Florida. Imperial Sugar 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. Thus, the companies argued that the combined entity will better be able to service customer needs while benefiting the companies, the affiliated growers, and customers alike.

On November 23, under Section 7 of the Clayton Act, the U.S. Department of Justice (DOJ) filed a civil antitrust lawsuit to block the proposed acquisition. DOJ argued 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 United States, lessening competition and raising prices to customers.

A four-day bench trial was held in the U.S. District Court of Delaware and concluded on April 21, 2022. On September 23, the presiding judge ruled in favor of the sugar companies, allowing the acquisition to proceed. DOJ filed a notice of appeal and sought an injunction on September 26, which was denied by the Delaware District Court 2 days later. The next day, DOJ elevated its request for injunction with the Third Circuit Court of Appeals in Philadelphia but was also denied.

At the time of this outlook's release, DOJ has yet to appeal the Third District Court's decision.

Mexico Outlook

Production in 2022/23 Lowered; Remains Sufficient To Fill Exports to the U.S.

The October 2022 *WASDE* report reduced Mexico's 2022/23 sugar production from the previous month by 100,000 MT to 5.9 million based on the recently published Mexican Sugar Semi-Annual report from the USDA, FAS post in Mexico City (table 7). This represents a 4.6-percent decrease from last year's production of 6.185 million MT. Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA) has yet to release its initial 2022/23 production estimate, which is usually released before the end of October. USDA projects that harvested area will remain above 800,000 hectares, as with last year, since the relatively good returns from the 2021/22 campaign have spurred growers to keep up planted area. However, as noted by USDA, FAS, cane field yields are expected to be lower than the prior year due to lower rainfall in some growing areas during the critical growing season, higher prices for fertilizers and other inputs, and field labor shortages.

The 100,000-MT decrease in production results in a reduction of total exports by a like amount to 1.403 million. To meet the estimated volume of exports to the U.S., which is unchanged at 1.385 million MT per the U.S. Department of Commerce's calculation of U.S. sugar needs in September, the reduction in exports is expected to come off the amount destined for other destinations. There are no other changes to the 2022/23 Mexican balance sheet and ending stocks remain at 947,000 MT, which is about the 2.5-months' worth of domestic consumption that Mexican officials target in their sugar program management.

Table 7: Mexican sugar: supply and use by fiscal year (October/September), October 2022

| Items | 2020/21 | | 2021/22 | | | 2022/23 | | |
|--|---------|-------|-------------------------|-----------------------|-------------------|-------------------------|-----------------------|-------------------|
| | | | September (estimate) | October (estimate) | Monthly change | September (forecast) | October (forecast) | Monthly change |
| 1,000 metric tons, actual weight | | | | | | | | |
| Beginning stocks | 858 | 1,053 | 1,053 | | 0 | 947 | 947 | 0 |
| Production | 5,715 | 6,185 | 6,185 | | 0 | 6,000 | 5,900 | -100 |
| Imports | 65 | 50 | 50 | | 0 | 50 | 50 | 0 |
| Imports for consumption | 32 | 15 | 15 | | 0 | 15 | 15 | 0 |
| Imports for sugar-containing product exports (IMMEX) 1/ | 33 | 35 | 35 | | 0 | 35 | 35 | 0 |
| Total supply | 6,638 | 7,288 | 7,288 | | 0 | 6,997 | 6,897 | -100 |
| Disappearance | | | | | | | | |
| Human consumption | 3,935 | 4,050 | 4,050 | | 0 | 4,050 | 4,050 | 0 |
| For sugar-containing product exports (IMMEX) | 485 | 497 | 497 | | 0 | 497 | 497 | 0 |
| Other deliveries and end-of-year statistical adjustment | | | | | | | | |
| Total | 4,420 | 4,547 | 4,547 | | 0 | 4,547 | 4,547 | 0 |
| Exports | 1,165 | 1,794 | 1,794 | | 0 | 1,503 | 1,403 | -100 |
| Exports to the United States and Puerto Rico | 828 | 1,160 | 1,180 | | 20 | 1,385 | 1,385 | 0 |
| Exports to other countries | 337 | 634 | 614 | | -20 | 118 | 18 | -100 |
| Total use | 5,585 | 6,341 | 6,341 | | 0 | 6,050 | 5,950 | -100 |
| Ending stocks | 1,053 | 947 | 947 | | 0 | 947 | 947 | 0 |
| Stocks-to-human consumption (percent) | 26.8 | 23.4 | 23.4 | | 0 | 23.4 | 23.4 | 0 |
| Stocks-to-use (percent) | 18.9 | 14.9 | 14.9 | | 0 | 15.7 | 15.9 | 0 |
| High-fructose corn syrup (HFCS) consumption (dry weight) | 1,320 | 1,310 | 1,310 | | 0 | 1,317 | 1,317 | 0 |

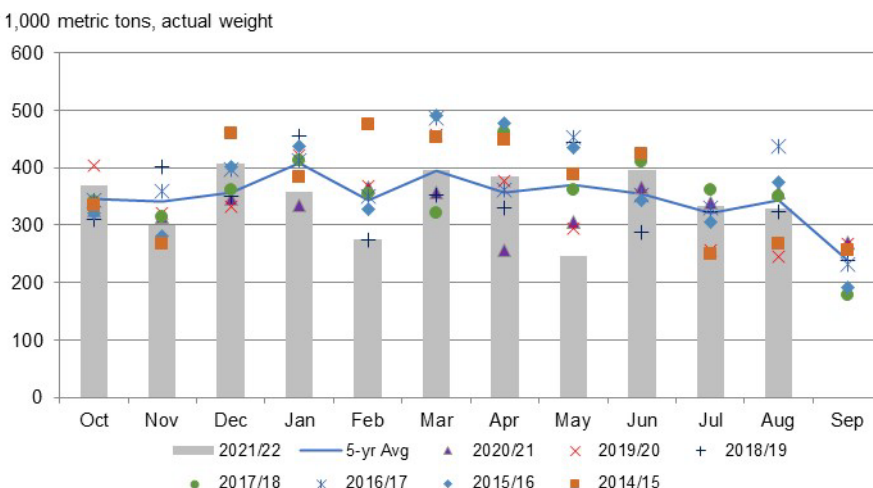
1/ IMMEX = Industria Manufacturera, Maquiladora y de Servicios de Exportación.

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

Deliveries Unchanged in 2021/22 and 2022/23

Sugar deliveries for human consumption in 2021/22 are unchanged at 4.050 million MT and is carried over to 2022/23 (table 7). Sugar deliveries through 11 months of data amounted to 3.796 million MT, which is 3.6 percent higher than the same period last year. This is because of several months of relatively strong sugar deliveries which offset weaker months (figure 12). The cumulative pace represents 93.7 percent of the full FY projection of 4.050 million MT, relatively ahead of the prior 2 years (93.5 percent in 2019/20 and 93.1 in 2020/21) but below the 5-year average (94.3 percent) (table 8). Thus, sugar deliveries in September would need to be around 254,000 MT to reach the 2021/22 estimate, which seems reasonable relative to patterns from prior years.

Figure 12
Mexico sugar deliveries for consumption, monthly, 2014/15–2021/22



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

Table 8: Pace of Mexican sweetener deliveries, October–August, 2010/11–2021/22

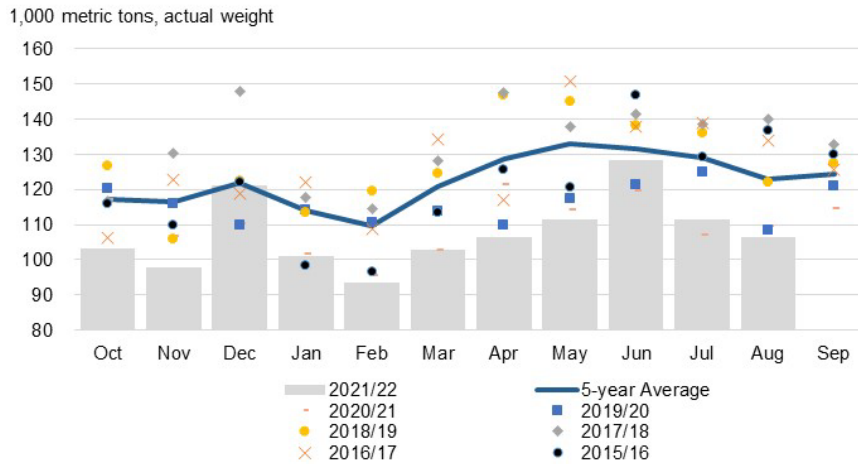
| | Sugar, 1,000 metric tons (MT) | | | High-fructose corn syrup, 1,000 MT, dry weight | | |
|------------------|-------------------------------|-------------|------------------|--|-------------|------------------|
| | Oct.–Aug. | Fiscal year | Percent of total | Oct.–Apr. | Fiscal year | Percent of total |
| 2010/11 | 3,642 | 3,950 | 92.2 | 1,495 | 1,635 | 91.4 |
| 2011/12 | 3,845 | 4,135 | 93.0 | 1,584 | 1,721 | 92.1 |
| 2012/13 | 3,999 | 4,287 | 93.3 | 1,442 | 1,567 | 92.0 |
| 2013/14 | 3,800 | 4,098 | 92.7 | 1,236 | 1,372 | 90.1 |
| 2014/15 | 4,153 | 4,408 | 94.2 | 1,320 | 1,444 | 91.4 |
| 2015/16 | 4,196 | 4,387 | 95.7 | 1,352 | 1,482 | 91.2 |
| 2016/20 | 4,283 | 4,515 | 94.9 | 1,393 | 1,522 | 91.5 |
| 2017/18 | 4,050 | 4,228 | 95.8 | 1,465 | 1,593 | 92.0 |
| 2018/19 | 3,852 | 4,092 | 94.1 | 1,401 | 1,528 | 91.7 |
| 2019/20 | 3,833 | 4,101 | 93.5 | 1,267 | 1,388 | 91.3 |
| 2020/21 | 3,665 | 3,935 | 93.1 | 1,205 | 1,320 | 91.3 |
| 2021/22 estimate | 3,796 | 4,050 | 93.7 | 1,184 | 1,310 | 90.3 |
| 5-year average | 3,937 | 4,174 | 94.3 | 1,346 | 1,470 | 91.6 |

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

Deliveries of high-fructose corn syrup (HFCS) in 2021/22 are also unchanged at 1.310 million MT, dry basis this month based on 11 months of data, which put cumulative deliveries at 1.184 million or 90.3 percent of the FY projection. Relative to monthly sugar deliveries, which were close to the 5-year average, HFCS deliveries fell below the 5-year average in all months except December (figure 13). With only 1 month of data left to be reported, HFCS deliveries in September must be around 126,000 MT, dry basis to reach FY estimate. As such, this amount is relatively larger than either the 5-year average or prior 2 years but remains reasonable (table 8). The 2022/23 HFCS deliveries are also unchanged from last month at 1.317 million MT, dry basis, which is about 0.5 percent higher from 2021/22.

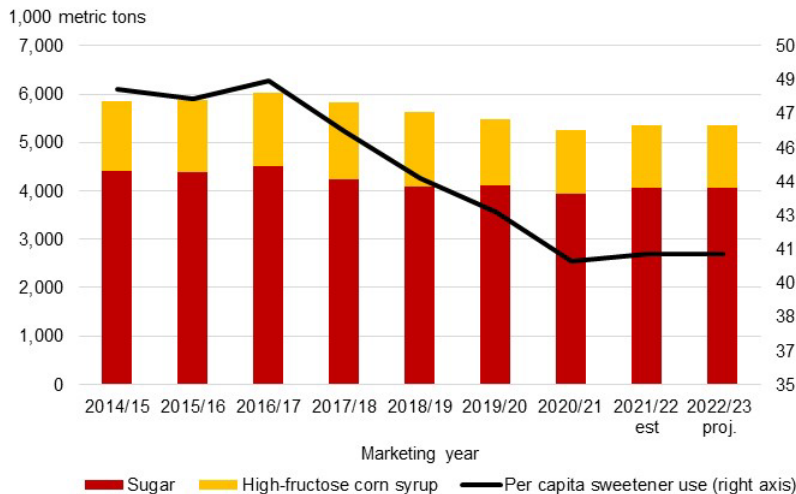
If realized, the 2021/22 sugar and HFCS deliveries combined to a total sweetener consumption of 5.360 million MT and a per capita consumption of 41.5 kilograms—a 2.0 percent and 1.5 percent increase, respectively, from 2020/21. Despite the increase, a downward trend since 2016/17 is still apparent (figure 14).

Figure 13
Mexican HFCS consumption, monthly, 2015/16–2021/22



HFCS = high-fructose corn syrup.
 Source: Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Figure 14
Mexican total and per capita sweetener consumption by year, 2014/15–2022/23

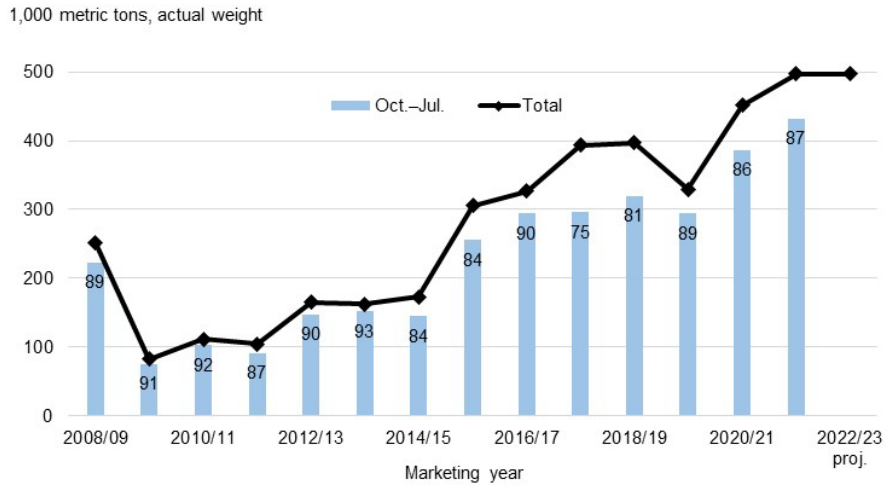


est. = estimated; proj = projected.
 Source: USDA, World Agricultural Outlook Board.

The other delivery component, which is the amount of sugar destined for the *Industria Manufacturera, Maquiladora y de Servicios de Exportación* (IMMEX) program, is equal to 497,000 MT in both 2021/22 and 2022/23 and are unchanged from last month. Out of the total, 432,000 MT are sourced from domestic production and the remaining (65,000 MT) from

imports. IMMEX, a Federal program, allows manufacturers of sugar-containing products to use imported and domestically produced sugar as inputs if the products are exported within 6 months. Monthly data show that the pace in the last 11 months, 87 percent of the total 497,000 MT has already been delivered (figure 15).

Figure 15
Mexican cumulative domestic IMMEX deliveries, Oct.–Aug., 2008/09–2021/22



IMMEX = Industria Manufacturera, Maquiladora y de Servicios de Exportación; proj. = projected.
 Note: The numbers inside the bars represent the percent share of cumulative deliveries out of the total.
 Source: Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

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