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Sugar and Sweeteners Outlook: June 2025

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In this report:

U.S. 2025/26 Sugar Supply and Use Are Forecast Lower; Mexico's 2025/26 Sugar Balance Sheet Is Mostly Unchanged

The U.S. 2025/26 sugar supply is forecast at 13.773 million short tons, raw value (STRV), down 17,000 STRV from last month, as the decrease in production more than offset the increase in beginning stocks. Sugar imports are virtually unchanged at 2.474 million STRV, the lowest level since 2007/08. The additional refined specialty tariff-rate quota (TRQ), which historically was filled by organic sugar imports, was not announced by USDA at the time of the *World Agricultural Supply and Demand Estimates* (*WASDE)* report. Sugar deliveries for food and beverage use are lowered 25,000 STRV to 12.125 million, matching the 2024/25 estimate, which was reduced this month by the same amount. With the other use component unchanged at 105,000 STRV, the 2025/26 total sugar use is lowered 25,000 STRV to 12.330 million. The corresponding stocks-to-use ratio is slightly up from 11.6 to 11.7 percent. Per the terms of suspension agreements, the initial 2025/26 Mexican Export Limit to achieve a 13.5-percent stocks-to-use ratio in the U.S. balance sheet will be announced by the U.S. Department of Commerce next month, using the July *WASDE*.

Mexico's 2025/26 sugar production is unchanged from last month at 5.094 million metric tons (MT), a 7-percent recovery from the weather-affected 2024/25 campaign. Mexico's total sugar exports are projected down by 10,000 MT but exports to the United States (under the terms of the suspension agreements) remain at 572,489 MT. This volume was carried over from last month which was projected under the assumption that the U.S. additional specialty TRQ (when announced) would be no lower than the 2024/25 level (231,485 STRV). The rest of the variables in the 2025/26 balance sheet are unchanged, except for a slight downward adjustment in beginning stocks.

Approved by USDA's World Agricultural Outlook Board

U.S. Sugar Outlook

U.S. 2025/26 Sugar Production Is Lowered

U.S. domestic sugar production for 2025/26 is projected at 9.254 million STRV, down by 31,000 STRV from last month, largely due to the reduction in beet sugar production (table 1). The beet sugar output is reduced by 30,000 STRV to 5.150 million STRV, a 3-percent reduction from 2024/25, due to a small decrease in projected national sugarbeet yield. The yield is modeled as a function of the USDA, National Agricultural Statistics Service (NASS) planting progress for the four largest sugarbeet-growing U.S. States (Minnesota, North Dakota, Idaho, and Michigan) since the NASS' initial sugarbeet yield forecast will not be released until the NASS August 11 *Crop Production* report. Given the availability of the full NASS planting progress data, the regression model was updated this month[1] using the average percent of sugarbeet planted acres through week 18 and week 19. This timeframe is considered a critical cut-off point to achieve optimal crop development and to allow sugarbeets sufficient time to deposit sugar before harvest. NASS will provide its first official estimate of area planted and projected area harvested in the June 30 *Acreage* report.

U.S. 2025/26 cane sugar output is reduced by 1,000 STRV to at 4.104 million STRV but still reflects a 3-percent growth from 2024/25. The reduction is solely driven by Florida, where cane sugar production is lowered by 1,000 STRV to 2.016 million STRV, to match the initial processors' forecast submitted to the USDA, Farm Service Agency, *Sweetener Market Data* (*SMD*) report. This 2.016 million STRV forecast for Florida reflects a 5-percent increase from the 2024/25 output that was negatively affected by weather-related factors—poor fall planting conditions, followed by drought in the spring and excessive rainfall during September–October 2024 after back-to-back hurricanes that also led to several days of standing water in the fields.

On the other hand, Louisiana's 2025/26 cane sugar production is unchanged at 2.088 million STRV, reflecting 6 consecutive years of increase and 4 years of surpassing Florida. The main underlying assumption is a continuation of moderate acreage growth in Louisiana.

[1] In the May *WASDE*, the regression model only used planting progress through week 18 because the data through week 19 was published after the *WASDE*.

Table 1: U.S. sugar supply and use by fiscal year (October–September), short tons raw value

	2023/24	2024/25			2025/26		
	Final	May (estimate)	June (estimate)	Monthly change	May (forecast)	June (forecast)	Monthly change
Beginning stocks	1,843	2,131	2,131	0	2,032	2,045	14
Total production	9,313	9,311	9,291	-20	9,285	9,254	-31
Beet sugar	5,172	5,334	5,318	-16	5,180	5,150	-30
Cane sugar	4,141	3,977	3,973	-4	4,105	4,104	-1
Florida	2,079	1,929	1,929	0	2,017	2,016	-1
Louisiana	2,022	2,049	2,045	-4	2,088	2,088	0
Texas 1/	40	0	0	0	0	0	0
Total imports	3,840	2,944	2,953	9	2,475	2,474	0
Tariff-rate quota imports	1,788	1,533	1,533	0	1,419	1,419	0
Other program imports	300	200	200	0	200	200	0
Non-program imports	1,752	1,212	1,220	9	855	855	0
Mexico	521	497	497	0	669	669	0
High-tier tariff/other	1,231	715	724	9	186	186	0
High-tier tariff	1,176	660	669	9	131	131	0
Raw sugar	887	323	319	-4	0	0	0
Refined sugar	289	337	350	13	131	131	0
Other 2/	55	55	55	0	55	55	0
Total supply	14,995	14,387	14,375	-11	13,791	13,773	-17
Total exports	249	100	100	0	100	100	0
Miscellaneous	81	0	0	0	0	0	0
Total deliveries	12,534	12,255	12,230	-25	12,255	12,230	-25
Domestic food and beverage	12,428	12,150	12,125	-25	12,150	12,125	-25
Sugar-containing products re-export program	83	80	80	0	80	80	0
Polyhydric alcohol, feed, other alcohol	23	25	25	0	25	25	0
Commodity Credit Corporation (CCC) for ethanol	0	0	0	0	0	0	0
Total use	12,864	12,355	12,330	-25	12,355	12,330	-25
Ending stocks	2,131	2,032	2,045	14	1,436	1,443	8
Private	2,131	2,032	2,045	14	1,436	1,443	8
Commodity Credit Corporation	0	0	0	0	0	0	0
Stocks-to-use ratio (percent)	16.6	16.4	16.6	0.1	11.6	11.7	0.1

Note: Totals and monthly changes may not add due to rounding.

1/ The last cane processor in Texas closed in 2023/24. 2/ The "Other" line represents the raw sugar equivalent of imported cane molasses, which was added in the *World Agricultural Supply and Demand Estimates (WASDE)* report starting in fiscal year 2023/24.

Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates* (*WASDE*) report; USDA, Farm Service Agency, *Sweetener Market Data* report; USDA, Foreign Agricultural Service, *U.S. Sugar Monthly Import and Re-Exports* report.

U.S. Sugar Imports for 2025/26 Are Unchanged; Slightly Raised in 2024/25 for High-Tier Duty Sugar

For 2025/26, the initial levels established for U.S. sugar imports are virtually unchanged at 2.474 million STRV, almost 500,000-STRV lower than 2024/25 and the lowest since 2007/08 (figure 1).

- Minimum commitment levels are set under the World Trade Organization (WTO) raw (1,137,438 STRV) and refined sugar (24,251 STRV) tariff-rate quotas (TRQs), and free trade agreements (257,736 STRV).
- Base levels are forecast for the re-export program imports (200,000 STRV), high-tier duty sugar imports (131,374 STRV for refined sugar and zero for raw sugar[2]), and sugar from imported molasses (54,645 STRV).
- Sugar imports from Mexico (668,925 STRV) are initially derived on the assumption that the 2025/26 additional specialty refined sugar TRQ, once announced, will not be lower than the 2023/24 level (231,485 STRV).

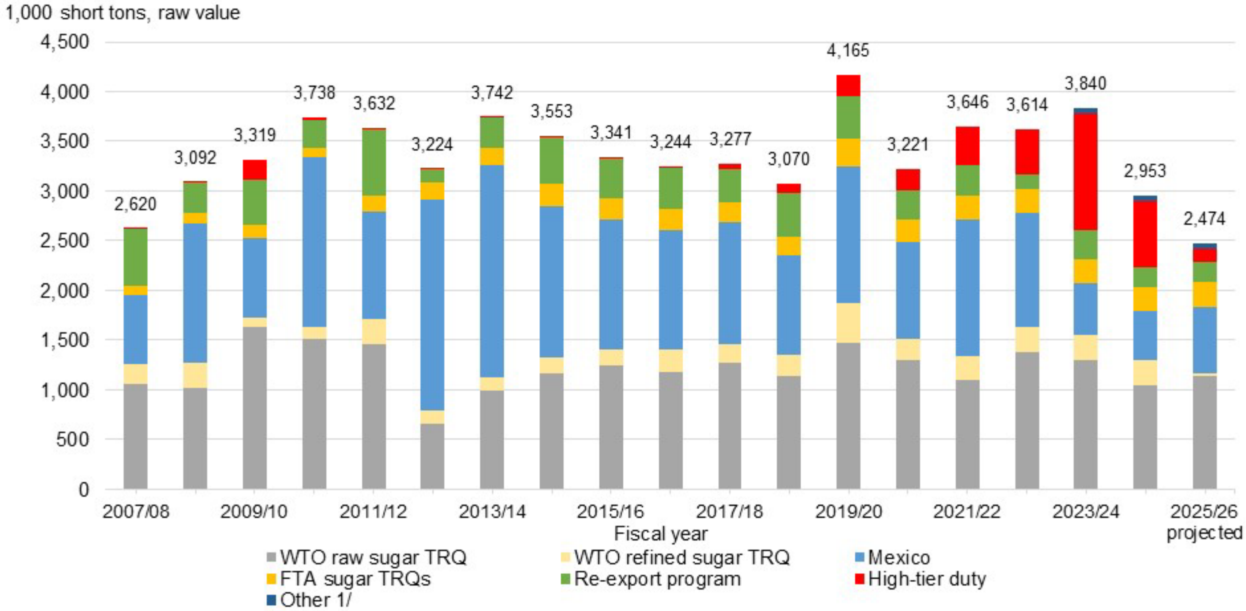
For 2024/25, U.S. sugar imports are slightly raised from last month by 9,000 STRV to 2.953 million STRV, solely based on proprietary data of high-tier imports entry from the U.S. Department of Homeland and Security, Customs and Border Protection (CBP) through the first week of June. The actual volume of raw high-tier sugar imports is adjusted downward by 4,000 STRV to 319,000 STRV but is more than offset by a 13,000-STRV increase to 350,000 STRV for the refined portion. Thus, high-tier sugar imports are raised 9,000 STRV to 669,000 STRV. High-tier sugar was traditionally the smallest U.S. sugar import category and was mostly comprised of high-value, refined sugar that is difficult to source domestically. However, this category has overtaken Mexico as the second largest source of U.S. sugar imports behind the raw sugar WTO TRQ in the past 2 years (2023/24–2024/25).

The estimated 2024/25 sugar imports of 2.953 million STRV are almost 1 million tons lower (23 percent) than 2023/24, mainly due to a year-over-year decrease in raw sugar imports. The raw sugar component of high-tier imports has the largest reduction from 2023/24 (down 567,000 STRV or 64 percent), followed by raw sugar WTO TRQ (down 258,000 STRV or 20 percent).

[2] The high-tier duty raw sugar component in 2025/26 is initially set to zero and will only be reflected in the *WASDE* balance sheet after entering the United States.

Figure 1

U.S. sugar imports by type, fiscal years 2007/08–2025/26



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

Note: The data labels at the top of the bars represent total imports.

1/ "Other" represents the raw sugar equivalent of imported cane molasses, which was added in the *WASDE* report starting in fiscal year 2023/24.

Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates* (*WASDE*) report; USDA, Foreign Agricultural Service, *U.S. Sugar Monthly Import and Re-Exports* report.

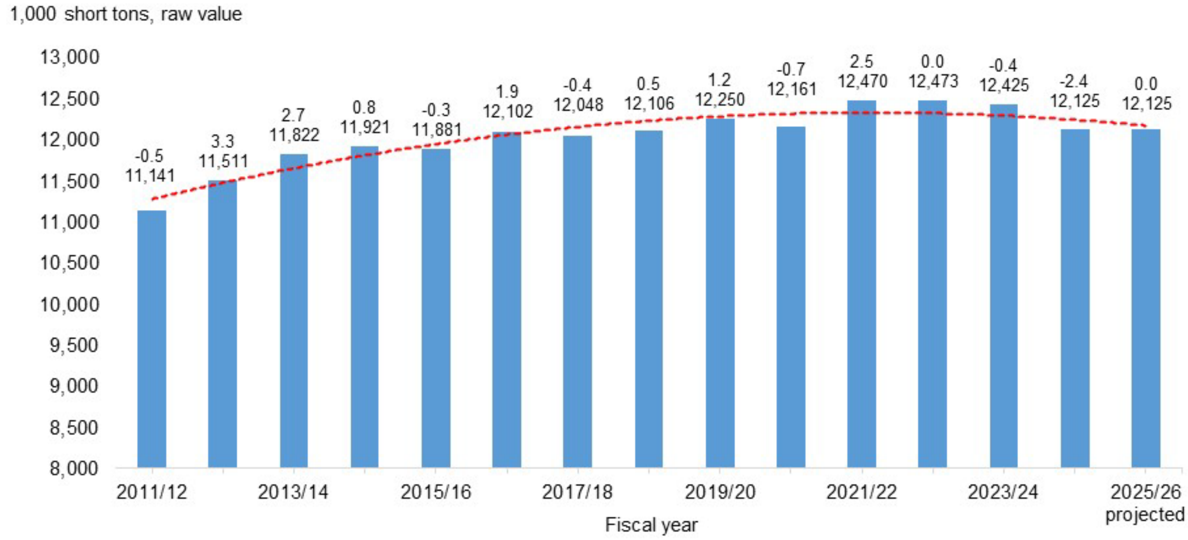
U.S. 2024/25 Sugar Deliveries for Human Consumption Are Reduced; Carried Over to 2025/26

U.S. 2024/25 sugar deliveries for food and beverage use are reduced from last month by 25,000 STRV to 12.125 million STRV. This decrease is based on a slower-than-expected pace through April and the expectation that the pace will not significantly pick up for the rest of the fiscal year. This updated estimate is carried over to 2025/26, reflecting a flat growth.

The downward adjustment to the 2024/25 estimate reflects a 2.4-percent year-over-year decline from 2023/24 and the lowest since 2018/19’s 12.106 million STRV (figure 2). Sugar deliveries have been slowing down since the 2.5-percent surge in 2021/22 post-Coronavirus (COVID-19) pandemic due to several factors. These factors include the return from just-in-case inventory management strategy to just-in-time, reduced food manufacturers’ sales due to inflation or customers’ recession concerns, increased competition from imported sugar-containing products, and the overall reduction in food and beverage consumption due to a shift in eating habits amid the rising adoption of glucagon-like peptide-1 (GLP-1) drugs.

Figure 2

U.S. sugar deliveries for food and beverage use, fiscal years 2011/12–2025/26



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

Source: USDA, Economic Research Service calculations using data from USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates* (*WASDE*) report and USDA, Farm Service Agency, *Sweetener Market Data* report.

Through April, sugar deliveries compared to last year over the same period are lagging for all sectors. Cane refiners are behind by 152,000 STRV (4 percent), followed by non-reporters by 47,000 STRV (11 percent), and beet processors by 22,000 STRV (1 percent). The competitive price of beet sugar has helped this sector regain market share.

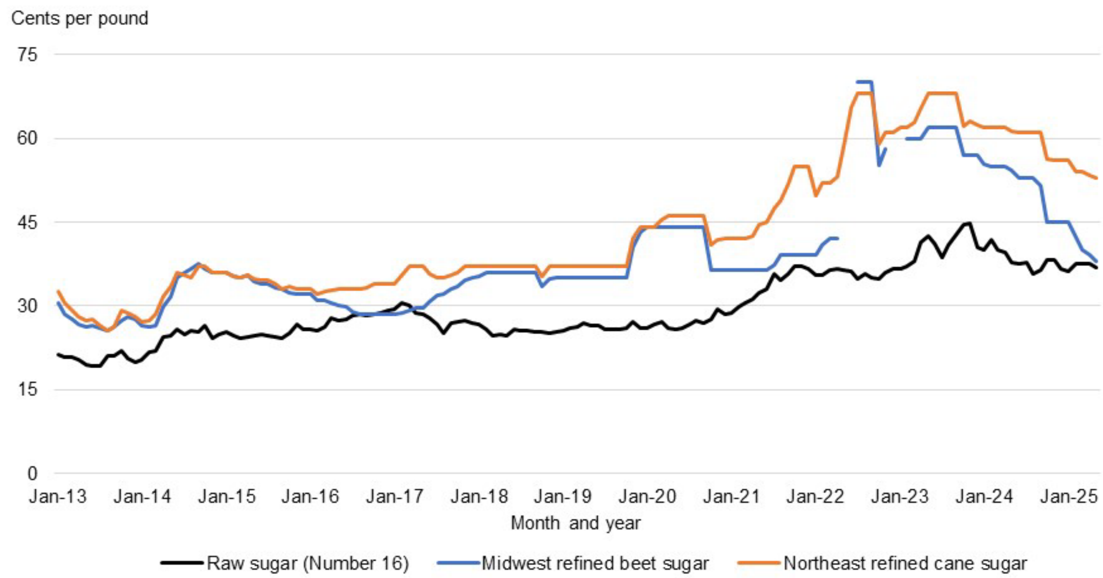
The bulk refined Midwest beet sugar nominal[3] price for 2024/25 reported in Sosland Publishing's *Sweetener Market* has been decreasing since early 2025, and as of June 17 has been quoted between 35–40 cents per pound (figure 3). This price range is down 15–18 cents per pound from the 2023/24 refined beet sugar quotes and about 12–17 cents per pound lower than the 2024/25 Northeast refined cane sugar quotes. In addition, the nominal refined beet sugar quotes are close to parity with the U.S. raw cane sugar futures (Number 16) nearby September, which closed at 35 cents per pound on June 17. Sosland reported that forward trading of refined beet sugar for next year (2025/26) is between 38–42 cents per pound and noted that beet processors consider 40 cents per pound as the breakeven price to cover their production costs.

[3] Beginning on its April 30 report, Sosland noted the spot beet sugar market was moved to nominal terms due to the lack of sales.

The sluggish sugar deliveries, amid a 12-year high carryover from 2023/24 and relatively large domestic production, contribute to the large inventory in 2024/25. Based on the *SMD*, total sugar-ending stocks as of April 30 (5.244 million STRV) are the highest since 2013/14 (figure 4). Looking at the components, cane refiners' refined cane sugar stocks (551,000 STRV) are at record high levels (figure 5). Meanwhile, beet processors' total stocks (which include stocks held for others) (2.394 million STRV) and raw cane sugar stocks (held jointly by cane refiners and cane processors) (2.299 million STRV) are both at near record levels (figures 6 and 7, respectively).

Figure 3

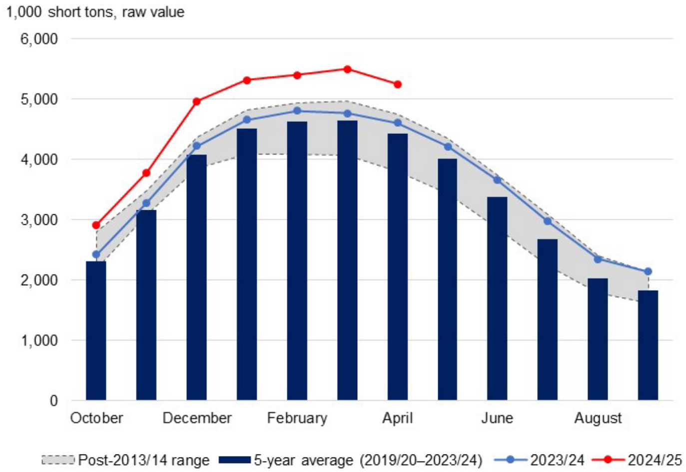
U.S. monthly average prices for raw cane sugar, refined beet sugar, and refined cane sugar, January 2013–May 2025



Note: The U.S. raw sugar (Number 16) is duty fee paid by deliverer; it represents the average of the nearest futures month for which an entire month of daily prices will be available. The U.S. bulk refined beet sugar and cane sugar spot prices are free on board plant basis, and reported by Sosland on a weekly basis. The breaks in the refined beet sugar price series are due to data unavailability.

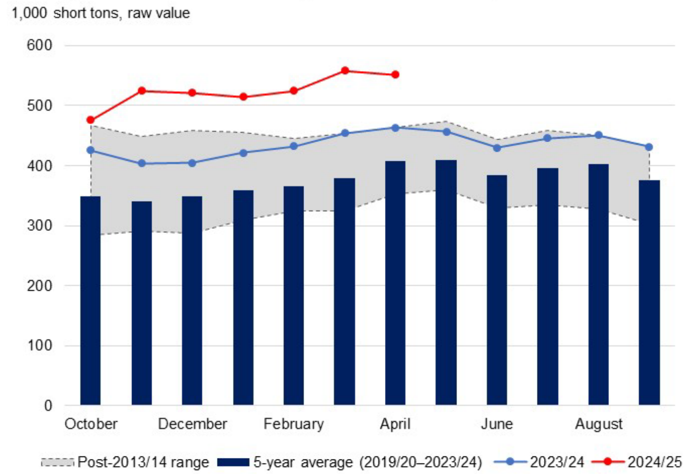
Source: USDA, Economic Research Service calculations using data from Intercontinental Exchange (ICE) and Sosland Publishing's *Sweetener Report*.

Figure 4
U.S. total sugar ending stocks, monthly, 2013/14–2024/25



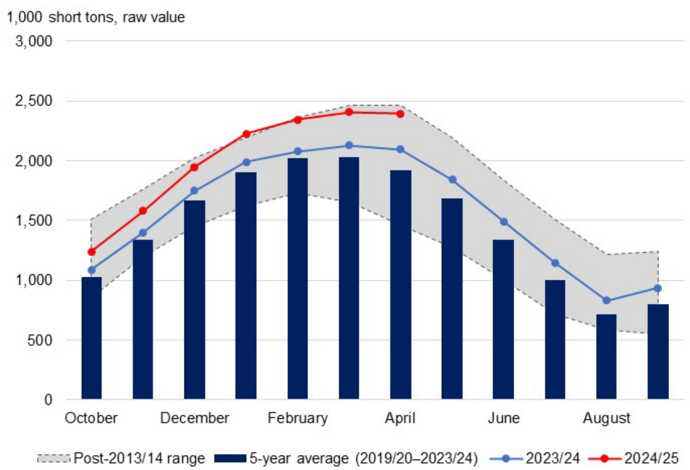
Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency *Sweetener Market Data* report.

Figure 5
U.S.sugarcane refiners' refined sugar inventories, monthly, 2013/14–2024/25



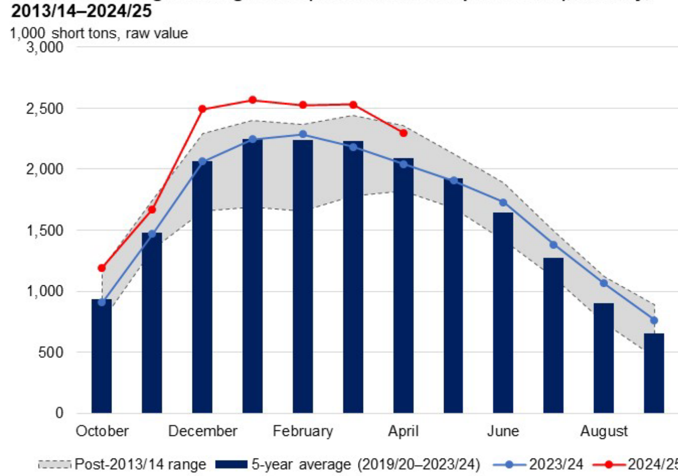
Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency *Sweetener Market Data* report.

Figure 6
U.S. sugarbeet processors' total sugar inventories, monthly, 2013/14–2024/25



Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency *Sweetener Market Data* report.

Figure 7
U.S. raw cane sugar ending stocks (cane refiners and processors), monthly, 2013/14–2024/25



Source: USDA, Economic Research Service calculations using data from USDA, Farm Service Agency *Sweetener Market Data* report.

Mexico’s Sugar Outlook

Mexico’s 2024/25 Sugar Production is Lowered as the Harvest Campaign Winds Down

Mexico’s 2024/25 sugar production is adjusted downward from last month by 37,000 metric tons (MT), actual weight to 4.774 million, as the harvest campaign nears completion (table 2). For 2025/26, Mexico’s sugar production is maintained at 5.094 million MT, reflecting a recovery of 320,000 MT or 7 percent from the current year’s campaign. The 2025/26 forecast is based on the April 2025 USDA, Foreign Agricultural Service (FAS) Mexico City *Sugar Annual* report, which projects the 2025/26 area harvested at 760,000 hectares, sugarcane yield at 64.2 MT per hectare, and sucrose factory recovery at 10.44 percent.

Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA) reported that, as of June 7 (week 36), 38 of the 47 mills have finished their harvest campaign. Cumulative sugar production totaled 4.743 million MT, surpassing last year by 57,000 MT (1 percent) over the same period. The area harvested to date is still lagging last year’s pace but is more than offset by the higher yield and sucrose recovery, particularly the latter.

Cumulative production of sugar with less than 99.2 polarity—produced exclusively for export to the United States—totaled 447,585 MT, which is more than 50 percent larger than last year’s output (291,781 MT) and has surpassed CONADESUCA’s fourth estimate (444,639 MT)[4]. This 447,585-MT volume is greater than the 297,589-MT requirement (March U.S. Needs of 425,127 MT x 70 percent) per the suspension agreements. Thus, there would be about 150,000-MT extra inventory of low-polarity sugar.

CONADESUCA has acknowledged this extra low polarity output by specifying an additional ending stocks line for the “inventory of sugar with polarity of less than 99.2 for exports to the United States” equal to 150,000 MT in its *2024/25 National Sweetener Balance Estimate* published on May 6. This 150,000-MT volume is reserved for export to the United States between October–December 2025 at the onset of the 2025/26 campaign. The *WASDE* includes this 150,000-MT of low-polarity sugar inventory in the 2024/25 balance sheet. The

[4] CONADESUCA released its *Fourth Estimate of Sugarcane and Sugar Production for the 2024/25 Harvest* on April 19, 2025.

same 150,000-MT of extra low polarity inventory is applied in the 2025/26 balance sheet.

Table 2: Mexico's sugar supply and use by fiscal year (October-September), metric tons, actual weight

	2023/24	2024/25			2025/26		
	Final	May (estimate)	June (estimate)	Monthly change	May (forecast)	June (forecast)	Monthly change
Beginning stocks	835	1,418	1,418	0	1,081	1,071	-10
Production	4,704	4,811	4,774	-37	5,094	5,094	0
Imports	761	189	175	-14	142	142	0
Imports for consumption	722	9	9	0	7	7	0
Imports for sugar-containing product exports (IMMEX)	40	180	166	-14	135	135	0
Total supply	6,300	6,418	6,367	-51	6,317	6,307	-10
Disappearance							
Human consumption	4,127	4,151	4,151	0	4,151	4,151	0
For sugar-containing product exports (IMMEX)	304	463	402	-61	418	418	0
Other deliveries and end-of-year statistical adjustment	5	0	0	0	0	0	0
Total	4,436	4,614	4,553	-61	4,569	4,569	0
Exports	446	723	743	20	667	657	-10
Exports to the United States and Puerto Rico	446	425	425	0	572	572	0
Exports to other countries 1/	0	298	318	20	94	84	-10
Total use	4,882	5,337	5,296	-41	5,236	5,226	-10
Ending stocks	1,418	1,081	1,071	-10	1,081	1,081	0
Domestic	1,418	931	921	-10	931	931	0
United States 2/	N/A	150	150	0	150	150	0
Stocks-to-human consumption (percent)	34.4	26.0	25.8	-0.2	26.0	26.0	0.0
Stocks-to-use (percent)	29.0	20.3	20.2	0.0	20.7	20.7	0.0
High-fructose corn syrup (HFCS) consumption (dry weight)	1,599	1,570	1,570	0	1,570	1,570	0

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

Note: Totals and monthly changes may not add due to rounding.

1/ Includes exports participating in the U.S. re-export programs.
2/ Starting in May 2025, a new line for "sugar inventory with polarity of less than 99.2 for exports to the United States" is added. This addition was done after Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA) included this information in its fourth iteration of the *2024/25 National Sugar Balance* report published on May 6.

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

Mexico's 2024/25 Sugar Imports and Deliveries, Both for IMMEX, Are Lowered

Both of Mexico's 2024/25 sugar imports for the Industria Manufacturera, Maquiladora y de Servicios de Exportación (IMMEX) program and deliveries of domestically produced sugar to this program are adjusted downward from last month. The reduction is primarily due to competition from lower priced high-fructose corn syrup (HFCS) imports.

Sugar imports for IMMEX are down 14,000 MT to 166,000 MT. Since the other import component—imports for domestic consumption—is unchanged at 9,000 MT, total sugar imports are solely reduced by the IMMEX portion (14,000 MT) to 175,000 MT. The FAS *Sugar Annual* report noted that while the total sugar import estimate is about 590,000 MT lower (77 percent) than 2023/24, it is larger than the 5-year average (about 260,000 MT) because of the timing of contracts. The contracts were signed last year when importers were expecting a lower Mexican sugar production. FAS also noted that the majority of the IMMEX-related sugar imports to date are sourced from the United States.

The domestic mills' sugar deliveries for IMMEX are reduced by 47,000 MT to 236,000 MT. Adding the 166,000-MT of imports destined for IMMEX to this 236,000-MT volume puts the total sugar for the IMMEX program at 402,000 MT.[5]

After incorporating the above changes to the balance sheet, Mexico's 2024/25 sugar exports to other countries (that is, outside of the suspension agreements) are residually raised by 20,000 MT to 318,000 MT. This 318,000-MT forecast will be re-evaluated next month since it is lower than the actual cumulative exports through May (about 381,000 MT), reported in CONADESUCA's *National Sugar Balance as of May 2025* report (which was published after the *WASDE)*.

U.S. Honey Market

U.S. demand for honey and honey-sweetened products has grown over the past three decades. In calendar year 2024, the implied domestic honey consumption reached a record 689 million pounds, up 25 percent from 2023, and translates to about 2 pounds per capita of honey consumption. The sustained demand, in part due to population growth, has also been attributed to consumers' association of honey as a "superfood"—along with garlic, ginger, and turmeric—and perception of honey being a healthy sweetener. For additional charts, see the USDA, ERS' visualization titled *Meeting Honey Demand in the United States* in the Sugar and Sweeteners Yearbook Tables (SSYB) page. Similarly, the data mentioned in this section are available from ERS' SSYB tables 46–48.

[5] The *WASDE* differs from CONADESUCA on IMMEX accounting because the *WASDE* includes sugar imports for IMMEX on its Mexico balance sheet; thus, it is both accounted in Mexico's *WASDE* supply and delivery components. In contrast, CONADESUCA excludes sugar imports for IMMEX on both places. That is, CONADESUCA only reflects imports of sugar for domestic consumption and thus, while CONADESUCA has a separate line item for domestic mills' deliveries for IMMEX, it does not add the volume of sugar imported for the IMMEX program.

Honey is produced across the country and the United States is the tenth-leading honey producer in the world, according to the 2023 database of the Food and Agriculture Organization of the United Nations. Based on the USDA, NASS *Honey* report published in March 2025, honey production in 2024 totaled 134 million pounds, down 4 percent from last year, as the decline in honey yield per colony more than offset the growth in honeybee colonies.

Honey imports have increased over time to meet domestic honey demand and have exceeded domestic honey production since 2005. Based on the U.S. Department of Commerce, Bureau of the Census, U.S. honey imports in 2024 reached a record 562 million pounds, which accounted for 76 percent of total U.S. honey supply, up from 66 percent a decade ago. In the last 10 years, the top 5 foreign honey suppliers are India, Argentina, Vietnam, Brazil, and Ukraine. In 2024, more than 80 percent of U.S. honey imports came from these 5 countries.

The U.S. national average honey prices have been trending upwards over the past years and contributed to increasing beekeepers' honey production revenue. The prices, reported by NASS, reflect the portions of honey sold through cooperative, private, and retail channels. The inflation-adjusted price rose slightly from $2.63 per pound (2024 U.S. dollars) in 2023 to $2.69 per pound in 2024. However, the minimal price increase in 2024 did not offset the decline in honey volume during the year. Thus, the value of honey production in 2024 amounted to $362 million, reflecting a 1-percent decrease from $366 million (2024 U.S. dollars) in 2023 and 2 consecutive years of decline in real terms.

U.S. Honeybee Pollination Service Market

The honeybee pollination service market has become increasingly valuable for domestic beekeepers. Based on the NASS *Cost of Pollination* report published in December 2024, in calendar year 2024, the pollination service market's total value exceeded $400 million and the total paid pollination acreage across the United States reached 1.7 million acres (table 3). Historically, national beekeeping surveys have primarily focused on honey production, providing limited insights into the paid-pollination service sector (Ferrier, 2019). In response to this gap, NASS introduced the annual *Cost of Pollination* survey in 2015.

Although the annual survey was paused between 2018 to 2021, it was reinstated in 2022 and remains the sole national effort to systematically assess the economic landscape of pollination services.

Revenue from pollination services was approximately 93 percent and 97 percent of honey production revenue in 2016 and 2017, respectively. Since 2022, the total value of pollination service in the United States has surpassed that of honey production. Between 2016 and 2024, after accounting for a historically high inflation rate of 30 percent during this period using the Consumer Price Index, the total inflation-adjusted value of the honey market declined by 19.6 percent, while the pollination service market experienced only a 3.7-percent decrease in real terms.

The Pacific Southwest—specifically USDA, NASS Census of Agriculture Regions 6 and 7—accounted for approximately 88 percent ($353 million) of the pollination service revenue, with California playing a significant role due to its vast almond production (figure 8). In 2024, almonds alone generated 81 percent of the total U.S. pollination service revenue—amounting to $325.8 million, a figure approaching the $361.5 million revenue from honey production. Goodrich and Altschuler (2025) estimate that California's almond production required more than 2 million honeybee colonies to ensure adequate pollination, which was 99 percent of total colonies in the United States on January 1, 2024. To meet this demand, beekeepers transport their hives over long distances to California for pollination services (Bond et al., 2021), adapting to seasonal changes and crop cycles throughout the country. In general, the timing of hive movements is meticulously aligned with the flowering schedules of different crops, which vary depending on regional climate conditions.

After adjusting for inflation, the average national pollination fee remained steady at around $110 per acre from 2016 to 2024. The Pacific Southwest exhibits the highest pollination fees, exceeding those of other regions by more than double, due to the elevated costs associated with almond production compared to other pollinator-dependent crops. Since 2005, with the rapid expansion of almond acreage, the large pollination demand has driven up the pollination fees (Sumner & Boriss, 2006; Ferrier, 2018). The higher cost of almond pollination is largely attributed to the crop's early blooming season (which requires beekeepers to bring honeybee colonies out of dormancy), the non-marketability of almond honey, and the larger number of colonies needed per acre relative to other pollinator-dependent crops (Ferrier, 2018; Goodrich, 2019).

Table 3: Overview of the U.S. pollination service and honey markets, calendar years 2016–24

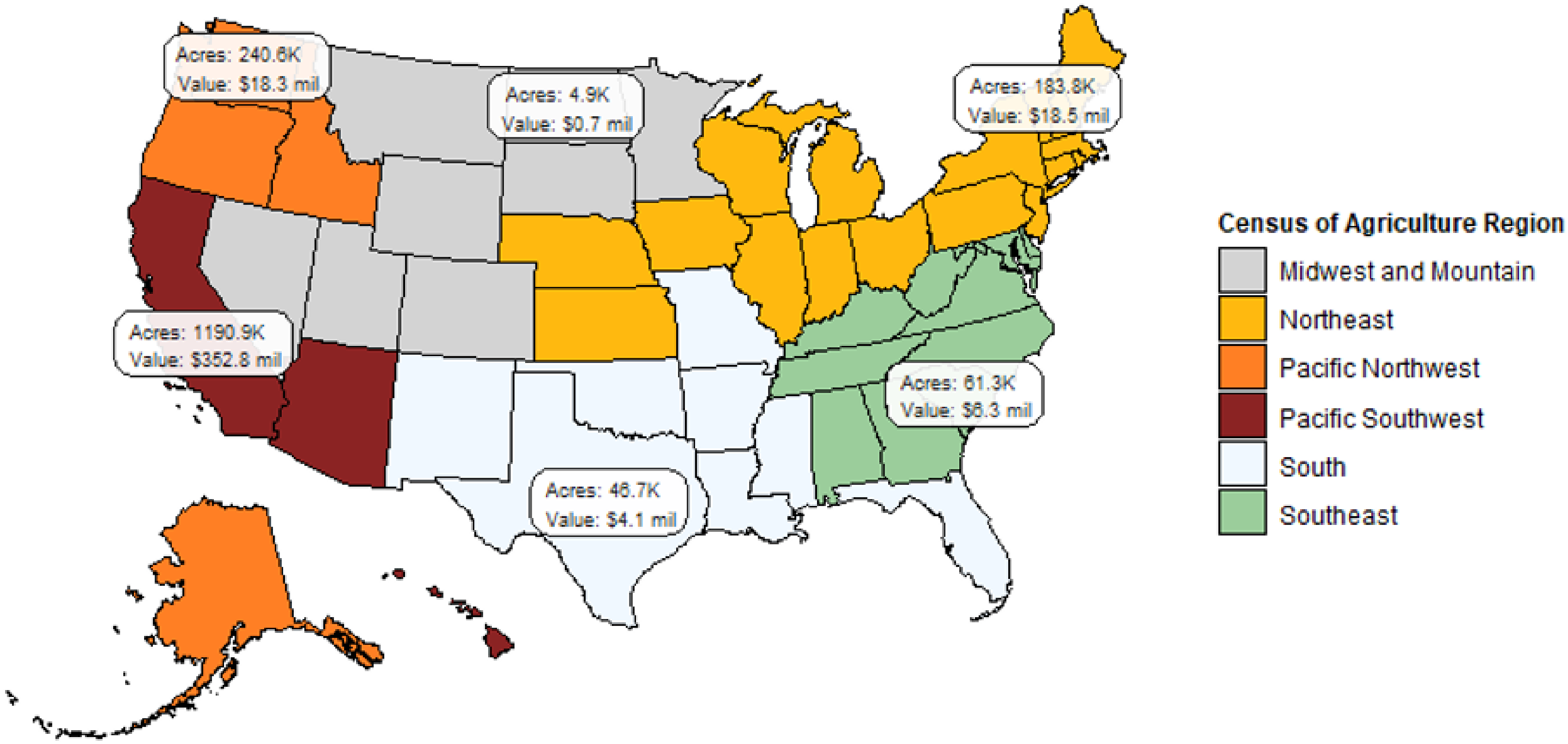
	2016	2017	2022	2023	2024	Change, 2016 to 2024 (percent)
Honey market						
Total value (in 2024 U.S. thousand dollars)	$449,573	$419,578	$404,412	$366,148	$361,517	-19.6
Relative size of pollination service market to the honey market (percent)	93	97	117	117	111	18.3
Paid-pollination service market						
Total value (in 2024 U.S. thousand dollars)	$416,042	$409,019	$472,453	$426,753	$400,755	-3.7
Share of almonds (percent)	*83*	*79*	*83*	*81*	*81*	*-2.1*
Total acreage (in 1,000 acres)	1,815	1,749	1,706	1,862	1,728	-4.8
Share of almonds (percent)	*51*	*53*	*61*	*58*	*61*	*10.3*
Pollination fee (in 2024 U.S. dollars per acre)						
National average	$111	$110	$121	$114	$107	-3.3
Northeast (Region 1)	$86	$80	$98	$85	$82	-4.6
Southeast (Region 2)	$63	$71	$90	$87	$87	36.9
South (Region 3)	$64	$71	$76	$79	$67	3.7
Midwest and Mountain (Region 4)	$52	$46	$47	$58	$49	-7.2
Pacific Northwest (Region 5)	$78	$83	$80	$85	$71	-8.8
Pacific Southwest (Region 6 and 7)	$323	$306	$336	$290	$289	-10.3

Note: The values of honey market, paid-pollination service market, and pollination fees were adjusted to real terms (with 2024 as the base year) using the Consumer Price Index for All Urban Consumers (CPI-U). The Census of Agriculture regions are defined as follows. Northeast (region 1) includes Connecticut, Illinois, Indiana, Iowa, Kansas, Massachusetts, Maine, Michigan, Nebraska, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin. Southeast (region 2) includes Alabama, Delaware, Georgia, Kentucky, Maryland, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. South (region 3) includes Arkansas, Florida, Louisiana, Missouri, Mississippi, New Mexico, Oklahoma, and Texas. Midwest and Mountain (region 4) includes Colorado, Minnesota, Montana, Nevada, North Dakota, South Dakota, Utah, and Wyoming. Pacific Northwest (region 5) includes Alaska, Idaho, Oregon, and Washington. Pacific Southwest (regions 6 and 7) include Arizona, California, and Hawaii.

Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Statistics Service *Cost of Pollination* report and *Honey* report.

Figure 8

Total value and acreage of U.S. pollination services by region 2024



Total U.S. pollination services acreage = 1.728 thousand acres
Total U.S. pollination services value = $400.8 million

Note: K = thousand; mil = million. Estimates are grouped by the 2012 Census of Agriculture regions.

Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Statistics Service *Cost of Pollination* report.

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