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Sugar and Sweeteners Outlook: June 2024

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In this report:

U.S. 2023/24 and 2024/25 Sugar Production Lowered; Mexico 2023/24 Production Raised

In the June *World Agricultural Supply and Demand Estimates* (*WASDE*), U.S. sugar production is reduced from last month in 2023/24 and 2024/25 due to lower production of beet sugar and Florida cane sugar, respectively. In 2023/24, imports from Mexico are trimmed 31,000 STRV on the diminished outlook for low polarity sugar produced exclusively for the U.S. market. This reduction was more than offset by a 47,000-STRV increase in the "High-tier tariff/other" category to account for imports of the raw sugar equivalent of cane molasses as an input to produce refined cane sugar. In 2024/25, the forecast for this import category is similarly increased by 47,000 STRV with the assumption that the average monthly import pace continues. Total use is unchanged for both years. Given that the USDA additional specialty sugar import announcement was published after the *WASDE* and thus, was excluded in the balance sheet, the corresponding 2024/25 stocks-to-use ratio is 11.5 percent.

Mexico's 2023/24 sugar production is raised from last month by 69,000 metric tons, actual weight, to 4.718 million—still a 25-year low—on the expectation that area harvested could reach 740,000 hectares. Imports for consumption in 2023/24 are increased based on pace, thereby contributing to carryover stocks into 2024/25 given that the expected 2024/25 production remains low by historical standards. In both years, Mexico's exports to other countries besides the United States are projected at zero.

Approved by USDA's World Agricultural Outlook Board

U.S. Outlook Summary

In the June *World Agricultural Supply and Demand Estimates* (*WASDE*), the 2023/24 U.S. sugar supply is reduced from last month by 34,000 short tons, raw value (STRV) to 14.377 million on lower production more than offsetting higher imports. Production is down 50,000 STRV to 9.080 million solely on the reduction in beet sugar output to 5.045 million (table 1). In 2023/24, imports from Mexico are trimmed 31,000 STRV to 466,000 on the diminished outlook for low polarity sugar produced exclusively for the U.S. market. This reduction was more than offset by a 47,000-STRV increase in the "High-tier tariff/other" category to account for cane refiners' importation of raw sugar equivalent of cane molasses as an input to produce refined cane sugar. This accounting on the supply side of the balance sheet ensures that direct consumption imports (DCI)—a component of domestic sugar deliveries for human consumption—are estimated correctly on the use side. With the 2023/24 total use unchanged at 12.653 million STRV, ending stocks are down 34,000 STRV to 1.724 million, translating to a stocks-to-use ratio of 13.6 percent, up 0.3 percentage points.

In 2024/25, U.S. sugar supply is decreased from last month by 19,000 STRV to 14 million on lower beginning stocks and reduced production more than offsetting the increase in imports. Sugar production is down 32,000 STRV to 9.2 million after Florida's sugar output is reduced following the cane processors' lower forecast of 2.004 million in the Farm Service Agency, *Sweetener Market Data* (*SMD*) report. To ensure DCI is correctly accounted in 2024/25, the forecast for the "High-tier tariff/other" import category is similarly increased by 47,000-STRV assuming that the average monthly import pace of molasses continues. Total use remains at 12.555 million STRV, the same as last month. Given the USDA additional specialty sugar import announcement was published after the *WASDE*, ending stocks are projected at 1.445 million STRV and the corresponding stocks-to-use ratio is down 0.2 percentage points to 11.5 percent.

Table 1: U.S. sugar supply and use by fiscal year (October–September), June 2024

	2022/23	2023/24			2024/25		
	Final	May (estimate)	June (estimate)	Monthly change	May (forecast)	June (forecast)	Monthly change
		1,000 short tons, raw value					
Beginning stocks	1,820	1,843	1,843	0	1,758	1,724	-34
Total production	9,250	9,131	9,080	-50	9,232	9,200	-32
Beet sugar	5,187	5,095	5,045	-50	5,111	5,111	0
Cane sugar	4,063	4,036	4,035	0	4,121	4,089	-32
Florida	1,985	2,060	2,060	0	2,036	2,004	-32
Louisiana	2,001	1,936	1,936	0	2,085	2,085	0
Texas	76	40	40	0	0	0	0
Total imports	3,614	3,438	3,454	16	3,028	3,076	47
Tariff-rate quota imports	1,862	1,798	1,798	0	1,415	1,415	0
Other program imports	141	288	288	0	200	200	0
Non-program imports	1,611	1,352	1,368	16	1,413	1,460	47
Mexico	1,156	497	466	-31	1,197	1,197	0
High-tier tariff/other	455	855	902	47	216	263	47
High-tier tariff	455	855	855	0	216	216	0
Total supply	14,685	14,411	14,377	-34	14,019	14,000	-19
Total exports	82	198	198	0	100	100	0
Miscellaneous	171	0	0	0	0	0	0
Total deliveries	12,589	12,455	12,455	0	12,455	12,455	0
Domestic food and beverage use	12,473	12,350	12,350	0	12,350	12,350	0
To sugar-containing products re-export program	94	80	80	0	80	80	0
For polyhydric alcohol, feed, other alcohol	22	25	25	0	25	25	0
Commodity Credit Corporation (CCC) for ethanol	0	0	0	0	0	0	0
Total use	12,843	12,653	12,653	0	12,555	12,555	0
Ending stocks	1,843	1,758	1,724	-34	1,464	1,445	-19
Private	1,843	1,758	1,724	-34	1,464	1,445	-19
Commodity Credit Corporation	0	0	0	0	0	0	0
Stocks-to-use ratio (percent)	14.3	13.9	13.6	-0.3	11.7	11.5	-0.2

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

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

U.S. 2023/24 Beet Sugar Production Reduced; 2024/25 Unchanged

U.S. beet sugar production in crop year 2023/24 is adjusted downward from last month by 50,000 STRV to 5.024 million STRV on lower sucrose recovery, as well as increased sugarbeet shrink and reduced sugar production from desugared molasses (table 2). With no changes to the forecast of early sugar production in August–September 2024 of 644,000 STRV, fiscal year 2023/24 beet sugar production is also reduced by 50,000 STRV to 5.045 million, 142,000-STRV lower (3 percent) than 2022/23's 5.187 million.

The estimate for August–September 2024, which would be sugar produced from the 2024/25 crop, will be reevaluated in the next months as this variable can be positively affected by the

relatively high proportion of sugarbeets planted by May 12. Mid-May is generally considered a critical cutoff point to achieve optimal crop development to allow sugarbeets sufficient time to deposit sugar before harvest.

Sucrose recovery (the percent of sugar recovered from sliced sugarbeets) is reduced from 14.75 to 14.70 percent based on processors' actual production through April in the *SMD* (figure 1). While cumulative sucrose recovery tends to stabilize around January, it has exhibited an uncharacteristic downward trend since December 2023. Following beet processors' submission in the *SMD*, shrink (the percent change representing the loss of sugarbeet weight from the time of piling until the time of slicing) is increased from 9.0 to 9.1 percent and sugar produced from desugared molasses is reduced from 345,000 to 317,000 STRV. The 2023/24 campaign faced some difficulties with regards to the management of sugarbeet piles, particularly in the Red River Valley where an unseasonably warm winter and inadequate snow cover prevented outside piles from completely freezing[1] which led to some spoilage and discards.

The 2024/25 fiscal year beet sugar production is unchanged at 5.111 million STRV, representing a 1-percent increase over the year. The forecast can be subject to adjustments based on information from upcoming USDA, National Agricultural Statistics Service (NASS) reports. On June 28, NASS will publish its *Acreage* report that includes sugarbeet planted area reported by growers. In addition, NASS' initial sugarbeet yield forecast will be released in its August 12 *Crop Production* report.

[1] The process of deep-freezing stops the respiration within the sugarbeets that are stored outside or in sheds—thereby minimizing the loss of sugar from deterioration—by using the frigid winter air to pass through the storage piles by ventilation.

Table 2: U.S. beet sugar production, 2022/23–2024/25

	2022/23 Final	2023/24 May	2023/24 June	Monthly change	2024/25 May	2024/25 June	Monthly change
Sugarbeet production (1,000 short tons) 1/	32,644	35,226	35,226	0	33,987	33,987	0
Sugarbeet shrink (percent)	6.39	9.00	9.10	0.10	6.66	6.66	0.00
Sugarbeet sliced (1,000 short tons)	30,558	32,056	32,020	-35	31,725	31,725	0
Sugar extraction rate from slice (percent)	15.35	14.75	14.70	-0.05	14.85	14.85	0.00
Sugar from beets sliced (1,000 STRV) 2/	4,690	4,728	4,707	-21	4,711	4,711	0
Sugar from molasses (1,000 STRV) 2/	372	345	317	-28	360	360	0
Crop year sugar production (1,000 STRV) 2/	5,061	5,073	5,024	-50	5,071	5,071	0
Aug.–Sep. sugar production (1,000 STRV)	537	663	663	0	644	644	0
Aug.–Sep. sugar production of subsequent crop (1,000 STRV)	663	644	644	0	644	644	0
Sugar from imported beets (1,000 STRV) 3/	N/A	40	40	0	40	40	0
Fiscal year sugar production (1,000 STRV)	5,187	5,095	5,045	-50	5,111	5,111	0

STRV = short tons, raw value; N/A = not applicable.

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

1/ USDA, National Agricultural Statistics Service.

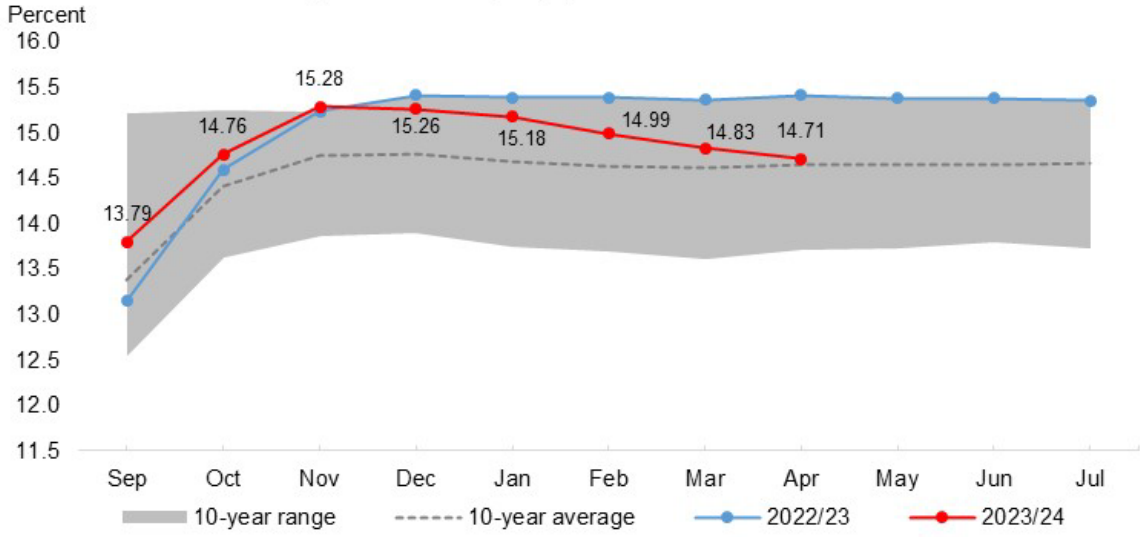
2/ August–July.

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

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

Figure 1

U.S. cumulative beet sugar extraction, crop year 2013/14–2023/24



Note: Extraction rate = 100 * (sugar produced from sliced beets / sliced beets).

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

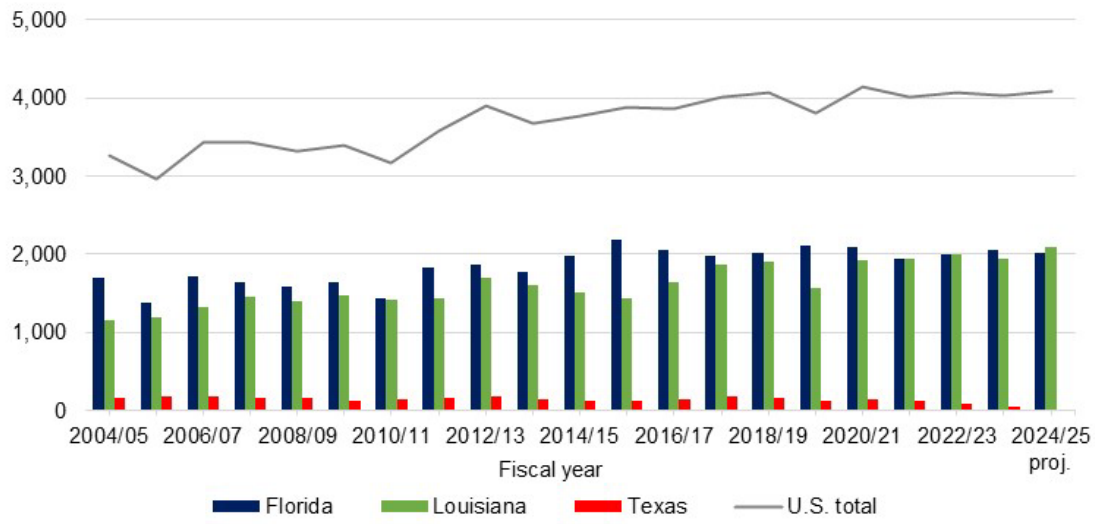
U.S. Cane Sugar Production Reduced in 2024/25

Cane sugar production in Florida for fiscal year 2024/25 is dropped from last month by 32,000 STRV to 2.004 million based on the initial forecast submitted by cane processors to the *SMD* (figure 2). The USDA, Office of the Chief Economist, World Agricultural Outlook Board's (WAOB) analysis of the *U.S. Drought Monitor* indicated that as of June 11, all sugarcane areas

in Florida experienced drought—78 percent in severe drought and 22 percent in moderate drought (figure 3). With Louisiana unchanged at 2.085 million STRV, domestic cane sugar production is down by 32,000 STRV to 4.089 million, a 1-percent increase from 2023/24. This is also the third year that Louisiana's output would overtake Florida's.

The 2023/24 U.S. cane sugar production is unchanged at 4.035 million STRV. Florida's harvest campaign will conclude in June and *SMD* data through April indicates that the cane processors are on track to meet the 2.060-million STRV estimate. While an April end date allows ample time for the sugarcane (stubble) to regrow, this year's campaign was extended by 2 to 4 weeks in some areas to make up for harvest delays in January due to unseasonal rains. The fiscal year sugar output in Louisiana, where the harvest campaign ended in January, remains at 1.936 million STRV. A potential adjustment to Louisiana is the early sugar production from the 2024/25 crop campaign since the September output will still be accounted for in 2023/24.

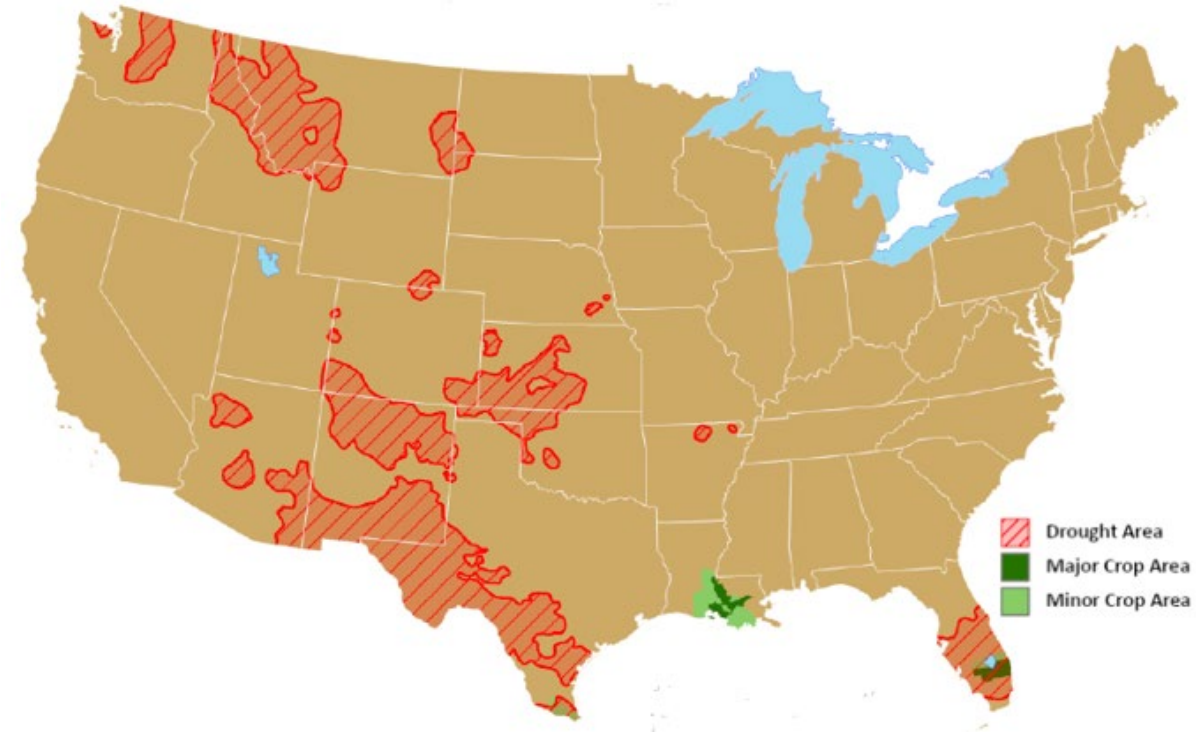
Figure 2
U.S. production of cane sugar by State, fiscal year 2004/05–2024/25



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

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

Figure 3
U.S. sugarcane areas in drought, as of June 11, 2024



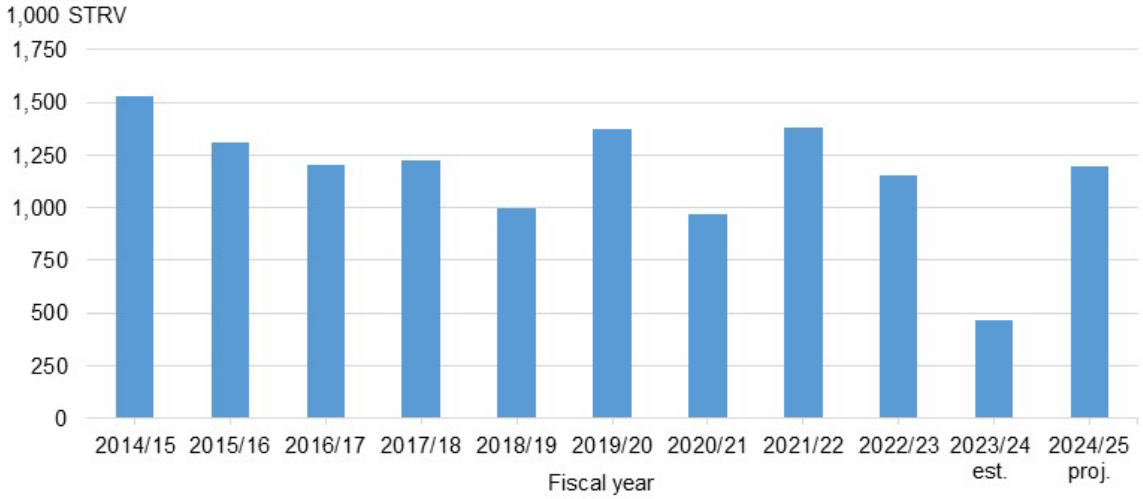
Note: There is no sugar production in Alaska and Hawaii.

Source: USDA, Office of the Chief Economist, World Agricultural Outlook Board, *U.S. Agriculture in Drought* reflecting U.S. Drought Monitor data as of June 11, 2024

U.S. Sugar Imports in 2023/24 and 2024/25 Adjusted to Include Molasses

U.S. sugar imports in 2023/24 are increased by 16,000 STRV to 3.454 million as the reduction of imports from Mexico is more than offset by an increase in the “High-tier tariff/other” category. While the *WASDE* increased Mexico’s overall sugar production this month, U.S. imports from Mexico are lowered by 31,000 STRV to 466,000, the lowest in 10 years because of the reduction in expected volume for low polarity sugar production (figure 4) (See the Mexico Outlook section). This implies that 97 percent of imports from Mexico have already entered through May and that imports from Mexico in the last fiscal trimester would only average to about 3,200 MT per month (figure 5).

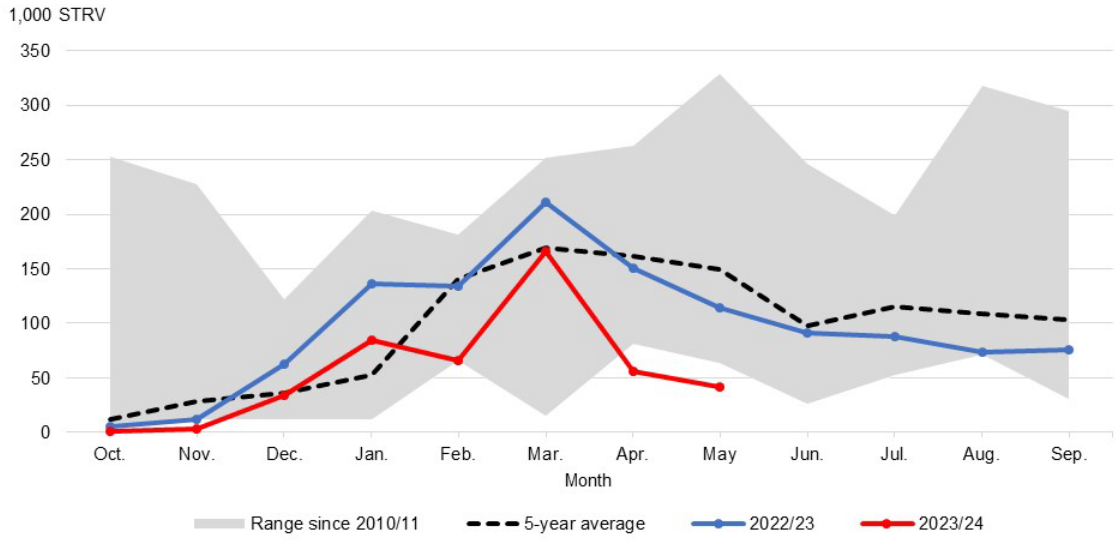
Figure 4
U.S. sugar imports from Mexico, 2014/15–2024/25



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

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

Figure 5
U.S. sugar imports from Mexico, monthly, fiscal year 2010/11–2023/24



STRV = short tons, raw value.

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

Independent of the reduction of imports from Mexico, the 2023/24 "High-tier tariff/other" category is raised by 47,000 STRV to 902,000, with the estimate for "high-tier tariff" imports unchanged at 855,000 STRV (615,000 for raw sugar and 240,000 for refined sugar). The source of the 47,000-STRV increase is to account for the first time in the "other" category, the raw sugar equivalent of

cane molasses[2] that is being imported as an input to produce refined cane sugar by *SMD*-reporting cane refiners.

Using publicly available import data from the U.S. Department of Commerce, Census Bureau, the USDA, World Agriculture Outlook Board calculated a monthly average of 3,929 STRV between October 2023–April 2024 and converted that to a 2023/24 fiscal-year estimate, assuming a similar pace continues in the next 5 months. The same monthly pace is assumed for next year, thus the 2024/25 "High-tier tariff/other" category is likewise raised by 47,000 STRV to 263,000.

This accounting on the supply side of the U.S. balance sheet ensures that direct consumption imports (DCI), also known as non-*SMD* reporter (NR) deliveries—one of the three components[3] of domestic sugar deliveries for human consumption—are estimated correctly on the use side. NR deliveries are calculated using two reports, the *SMD* and the USDA, Foreign Agricultural Service's (FAS) *U.S. Sugar Monthly Import and Re-exports*. Basically, NR deliveries are calculated by subtracting the imports of *SMD*-reporting cane refiners from the total U.S. imports in the FAS report (equation 1). Because the refiners are already including the volume of imported cane molasses in their reporting to *SMD*, it also needs to be accounted for in the total U.S. imports. Otherwise, DCI will be understated, which leads to imprecise estimates for sugar use.

Equation 1:
NR deliveries = Total U.S. imports reported by FAS – Imports reported by cane refiners in the *SMD*

NR deliveries through April equal to 325,000 STRV are about 50 percent lower over the same period last year (table 3). Deliveries by beet processors are down 3 percent compared with last year but were more than offset by cane refiners' deliveries, which are up 4 percent. Thus, in aggregate, *SMD* reporters' (beet processors and cane refiners) deliveries for human consumption through April are up 1 percent year over year. But without accounting for cane molasses imports in the NR deliveries, the interim regression and pace-to-date analyses would

[2] The corresponding Harmonized Tariff Schedule of the United States (HTSUS) is 1703.10.3000 and the corresponding description is "Cane molasses: Imported for (a) the commercial extraction of sugar or (b) human consumption."

[3] The 3 components of U.S. domestic sugar deliveries for human consumption are beet sugar deliveries, cane sugar deliveries, and non-reporter (NR) deliveries. The first two components are reported by beet sugar processors and cane sugar refiners, respectively, to the *SMD*. Conversely, NR deliveries are assumed to be imported and sold for direct consumption, bypassing additional refining processes.

have supported a downward adjustment to the 2023/24 sugar deliveries for human consumption instead of maintaining it at 12.350 million STRV.

Table 3: U.S. sugar deliveries for food and beverage use, October–April, by fiscal year, 2018/19–2023/24

Components	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	5-year average	Annual change (2023/2024 versus 2022/23)	
	1,000 short tons, raw value (STRV)								Percent
Beet sugar processors	2,886	2,696	2,836	3,108	2,866	2,777	2,879	-89	-3
Cane sugar refiners	3,611	3,765	3,605	3,575	3,797	3,958	3,671	161	4
Total reporters	6,497	6,460	6,441	6,683	6,663	6,734	6,549	71	1
Non-reporter (direct consumption)	504	700	480	551	613	325	570	-289	-47
Total	7,001	7,161	6,921	7,234	7,277	7,059	7,119	-217	-3
	Percent share in total								
Beet sugar processors	41	38	41	43	39	39	40		
Cane sugar refiners	52	53	52	49	52	56	52		
Total reporters	93	90	93	92	92	95	92		
Non-reporter (direct consumption)	7	10	7	8	8	5	8		
Total	100	100	100	100	100	100	100		

Note: Totals may not add due to rounding. "Reporters" refer to beet processors and cane refiners that report their data to the Farm Service Agency's monthly *Sweetener Market Data* (*SMD*) report.

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

2024/25 Additional Specialty Sugar Announced

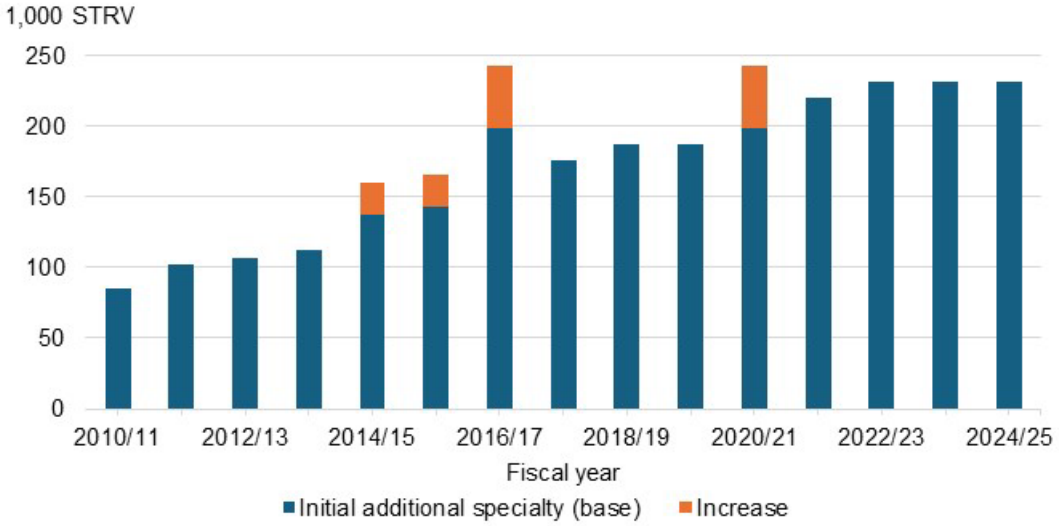
On June 15, the USDA announced the 2024/25 quota for additional specialty refined sugar tariff-rate quota (TRQ)—which is mostly comprised of organic sugar—at 231,485 STRV (or 210,000 metric tons, raw value). This volume is at the same level as the prior two years (figure 6). Since the *Federal Register* was published after the *WASDE*, this volume will be reflected in next month's balance sheet.

In the same *Federal Register* announcement, USDA published the 2024/25 raw and refined sugar TRQs at the minimum levels consistent with World Trade Organization (WTO) commitments—1,231,497 STRV[4] and 24,251, respectively—that were already accounted for in the May *WASDE*. Similarly, the 2024/25 imports from Mexico (1.197 million STRV) were also already calculated in the May *WASDE* on the assumption that the 2024/25 additional specialty refined sugar TRQ would not be lower than the 2023/24 level.

[4] The minimum World Trade Organization raw and refined sugar tariff-rate quota commitment levels in metric tons, raw value terms are 1,117,195 and 22,000, respectively.

Figure 6

U.S. imports of additional specialty refined tariff-rate quota sugar, 2010/11–2024/25



STRV = short tons, raw value.

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

Mexico Outlook

Mexico's 2023/24 Sugar Production Increased

With the harvest campaign winding down, Mexico's 2023/24 sugar production is adjusted upward from last month by 69,000 metric tons (MT), actual weight, to 4.718 million (table 4). This output remains at a 25-year low and about 500,000-MT lower (10 percent) than 2022/23 (figure 7). This year's crop was negatively affected by unsuitable weather conditions during the growing and harvest seasons and suboptimal application of inputs (such as fertilizers) due to high costs. Production for 2024/25 is unchanged at 5.189 million MT.

Table 4: Mexico's sugar supply and use by fiscal year (October–September), June 2024

	2022/23	2023/24			2024/25		
	Final	May (estimate)	June (estimate)	Monthly change	May (forecast)	June (forecast)	Monthly change
		1,000 metric tons, actual weight					
Beginning stocks	964	835	835	0	872	1,132	260
Production	5,224	4,649	4,718	69	5,189	5,189	0
Imports	285	575	596	21	525	343	-182
Imports for consumption	267	475	496	21	500	318	-182
Imports for sugar-containing product exports (IMMEX) 1/	18	100	100	0	25	25	0
Total supply	6,473	6,059	6,149	90	6,585	6,664	78
Disappearance							
Human consumption	4,193	4,193	4,193	0	4,236	4,236	0
For sugar-containing product exports (IMMEX)	405	425	425	0	425	425	0
Other deliveries and end-of-year statistical adjustment	29	0	0	0	0	0	0
Total	4,627	4,618	4,618	0	4,661	4,661	0
Exports	1,011	569	399	-170	1,024	1,024	0
Exports to the United States and Puerto Rico	989	426	399	-27	1,024	1,024	0
Exports to other countries 2/	22	143	0	-143	0	0	0
Total use	5,638	5,187	5,017	-170	5,685	5,685	0
Ending stocks	835	872	1,132	260	900	978	78
Stocks-to-human consumption (percent)	19.9	20.8	27.0	6.2	21.3	23.1	1.8
Stocks-to-use (percent)	14.8	16.8	22.6	5.8	15.8	17.2	1.4
High-fructose corn syrup (HFCS) consumption (dry weight)	1,392	1,407	1,407	0	1,407	1,407	0

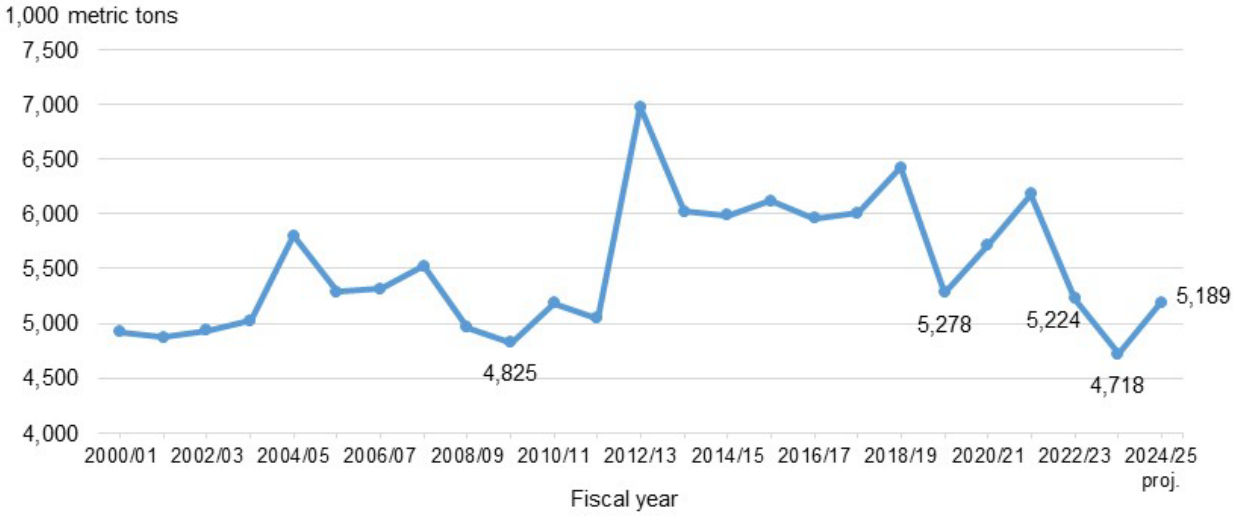
Note: Totals and monthly changes may not add due to rounding.

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

Figure 7
Mexico's sugar production, by fiscal year, 2000/01–2024/25



proj.= projected.

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

The upward adjustment for 2023/24's sugar production to 4.718 MT is based on production data through week 35 (as of June 1) published by Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA). Based on a late season pace uptick, the harvested area was increased from last month by 13,000 hectares to 740,000 but would still be the lowest in 12 years (figure 8). The poor quality of the weather-affected crop (e.g., inadequate yield and/or sugar content), which results in low amounts of recoverable sugar, have likely impelled the mills and the growers to leave some fields unharvested to recover for next year's campaign. There were only slight adjustments to the sugarcane yield (from 62.73 to 62.50[5] MT per hectare) and sucrose recovery rate (from 10.19 to 10.20 percent).

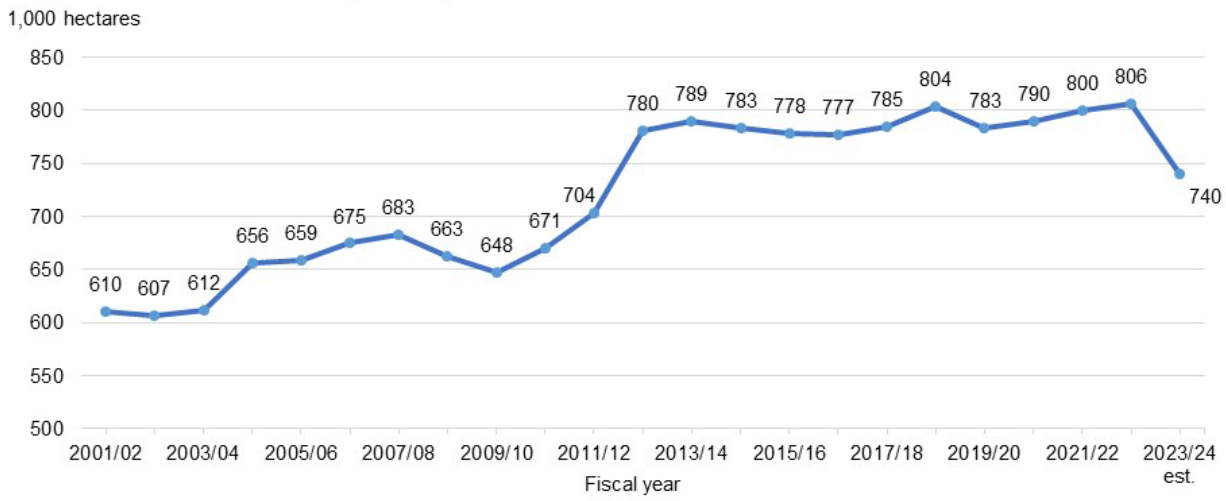
After the *WASDE*, CONADESUCA released data for week 36 (as of June 8) showing area harvested at 733,000 hectares, yield at 62.29 MT per hectare, and recovery rate at 10.21 percent (table 5). Only 8 of the 48 mills are still processing. Out of the remaining mills, only 4 are low polarity sugar producers—Central San Miguelito, CIASA (Cuatotolapam), San Rafael de Pucte, and Santa Rosalia.

All the production variables, except for sugarcane yield (up 5 percent), continue to lag last year's levels: area harvested by 8 percent, recovery rate by 7 percent, and the agro-industrial yield by

[5] 62.5066 metric tons per hectare to be precise.

2 percent. Consequently, cumulative sugar production is lower by 11 percent year over year. Production across all sugar types also continues to track lower, particularly for low polarity sugar, which is down 60 percent from the same period last year.

Figure 8
Mexico's area harvested for sugarcane, 2001/02–2023/24



est. = estimated.

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

Table 5: Mexico's sugar production as of week 36, fiscal years 2022/23, 2023/24, and 5-year average

	As of week 36			Difference versus 2022/23		Difference versus 5-year average	
	2022/23	2023/24	5-year average[1/]	Level	Percent	Level	Percent
Area harvested (1,000 ha)	801	733	786	-68	-8	-53	-7
Sugarcane processed (1,000 MT)	47,463	45,682	51,460	-1,781	-4	-5,778	-11
Sugarcane yield (MT per ha)	59.24	62.29	65.47	3.1	5	-3.18	-5
Extraction rate (percent)	10.98	10.21	11.09	-0.8	-7	-0.88	-8
Agro-industrial yield (MT sugar per ha)	6.51	6.36	7.27	-0.1	-2	-0.91	-12
Sugar production (1,000 metric tons)	5,213	4,662	5,711	-551	-11	-1,049	-18
By type:							
Refinada	1,192	1,090	1,317	-102	-9	-227	-17
Estándar	3,222	3,219	3,437	-3	0	-218	-6
Polarity less than 99.2	727	288	763	-439	-60	-475	-62
Blanco especial and mascabado	72	65	194	-8	-11	-129	-67

ha = hectares; MT = metric tons.

[1/] Years included are 2018/19–2022/23.

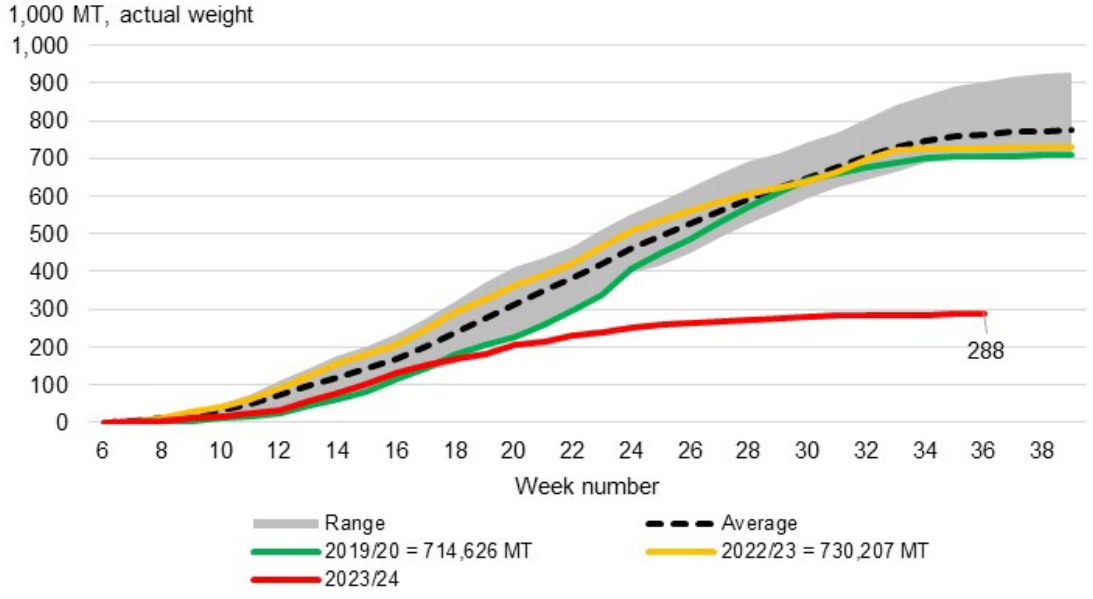
Source: USDA, Economic Research Service calculations using data from Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Mexico's Exports to the United States in 2023/24 Reduced

Despite this month's increase in 2023/24 Mexico's sugar production to 4.718 million MT, Mexico's exports to the United States are reduced from last month by 27,000 MT to 399,000. This is because the expected share of low polarity sugar in total production is reduced from 6.5 percent to 6 percent using CONADESUCA's week 35 report. This implies that low polarity sugar production would be 283,000 MT (4.718 million MT multiplied by 6 percent). With the estimated share of low polarity sugar in total exports to the U.S. still at 71 percent, Mexico's total exports to the U.S. would be 399,000 MT (i.e., 283,000 MT divided by 0.71). CONADESUCA's week 36 report, which came out after the *WASDE*, already reflects a slightly higher low polarity sugar production of 288,000 MT. The export estimate will be revisited next month when all the mills are expected to be done.

Nonetheless, the low polarity sugar production in 2023/24 would be the lowest since Mexico started producing this sugar type in 2017/18 to comply with the suspension agreements (figure 9). The production of standard and refined sugar for the domestic market is taking precedence over low polarity for exports to the United States given the poor sugarcane crop outlook and historically high Mexico sugar prices (figure 10).

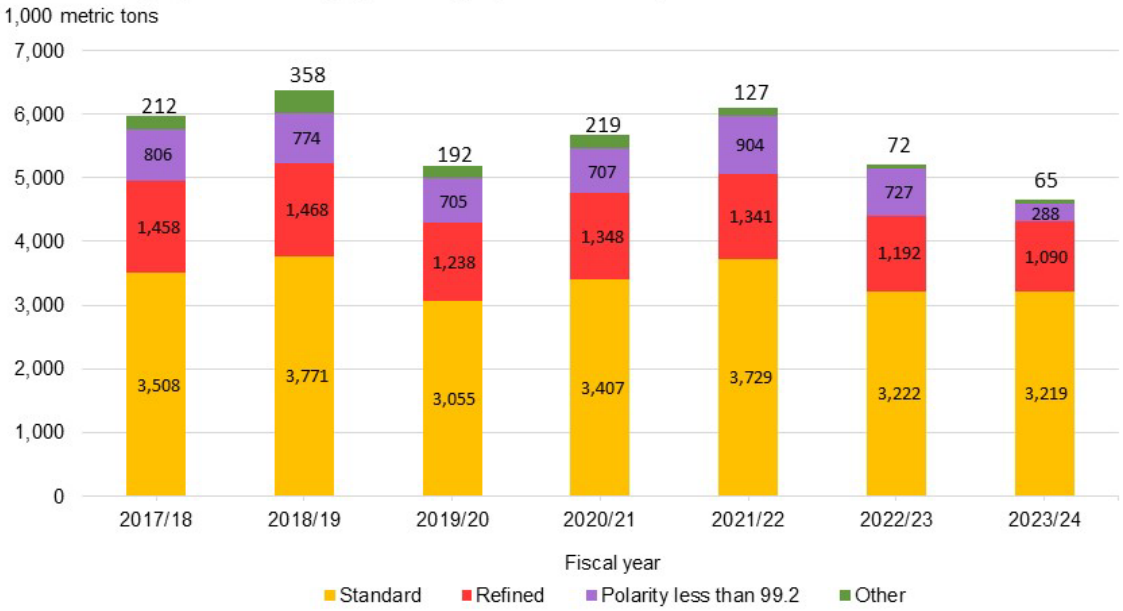
Figure 9
Mexico's cumulative production of low polarity sugar, by week, 2018/19–2023/24



MT = metric tons.

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

Figure 10
Mexico's sugar production by type of sugar, as of week 36, 2017/18–2022/23



Note: The "Other" category is comprised of white special and brown sugar.

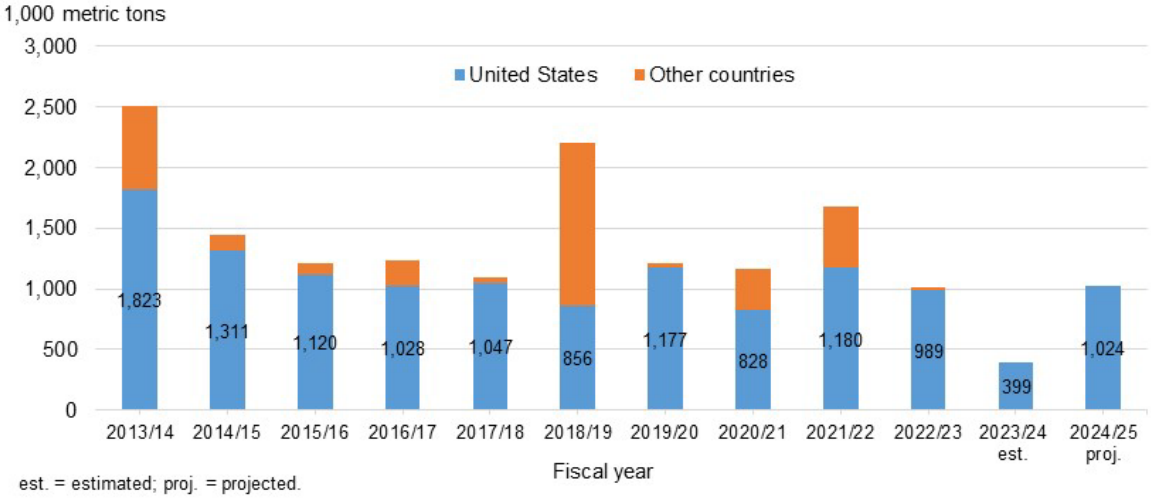
Source: USDA, Economic Research Service calculations using data from Mexico's National Committee for the Sustainable Development of Sugarcane (CONADESUCA).

Mexico's Exports to Other Countries in 2023/24 Reduced to Zero

Mexico's exports to other countries in 2023/24 are reduced from last month's 143,000 MT to zero (figure 11). While more than one scenario can play out, the *WASDE* assumes that Mexico would keep the sugar in the country as carryover stocks for 2024/25 since the upcoming year's 5.189-million MT of sugar production remains relatively low which can then lead to a continuation of high-tier tariff imports. Thus, the 2023/24 ending stocks are increased to 1.132 million MT. This 2023/24 scenario is consistent with CONADESUCA's April *Monthly National Sugar Balance, Cycle 2023/24* report (using data as of May 17) that shows Mexico has not recorded any exports other than to the United States. Correspondingly, the larger beginning stocks in 2024/25 reduces Mexico's imports for consumption by 183,000 MT to 318,000.

Similarly, in 2024/25, Mexico's exports to other countries are maintained at zero. Based on the current balance sheet, there is no surplus left after accounting for available supply from domestic production and imports, as well as domestic commitments and exports to the United States, and a 2.5-months' worth of target ending stocks.

Figure 11
Mexico's sugar exports by destination, 2013/14–2024/25



est. = estimated; proj. = projected.

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

Mexico's Sugar Imports Raised in 2023/24

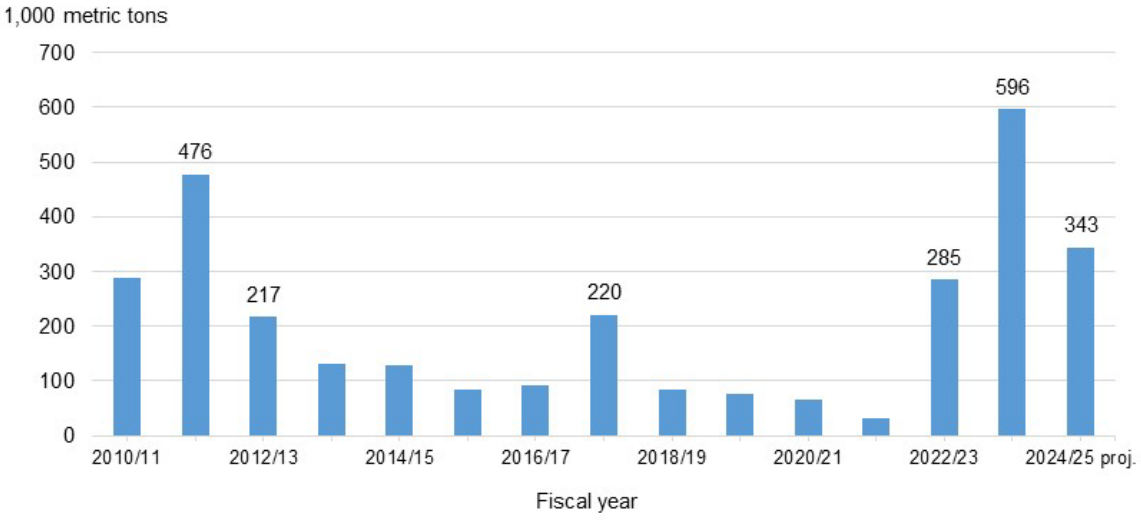
Mexico's 2023/24 imports for domestic consumption are increased from last month by 21,000 MT to 496,000 based on the pace reported in the CONADESUCA's April *Monthly National Sugar Balance, Cycle 2023/24*. Imports for the Industria Manufacturera, Maquiladora y de Servicios de Exportación (IMMEX) program are unchanged at 100,000 MT—more than 4 times higher than 2022/23—as the estimate considers additional sugar imports benefitting from USDA re-export programs that the Mexican government is temporarily allowing to enter duty-free until August 31. Thus, Mexico total imports are likewise increased by 21,000 to 596,000 MT, the largest since 2010/11 (figure 12).

Data from Trade Data Monitor (TDM) as of June 17 shows countries have already reported a total[6] of about 612,000 MT of exports to Mexico through May (table 6), which is larger than the *WASDE*'s estimate of 596,000 MT. However, there is a noticeable drop in May relative to the prior months, which can indicate a slowdown although it is possible that some countries may have not reported yet (figure 13). Thus, with a few more months remaining in the fiscal year, the estimate will be reevaluated as information becomes available. Per TDM, Brazil is the top origin country, supplying half of the total exports, followed by the United States (22

[6] TDM only provides data on the reporting countries' total exports to Mexico; there is no delineation on whether the exports are for IMMEX purposes or for domestic consumption.

percent), and Guatemala (12 percent).

Figure 12
Mexico's total sugar imports, by fiscal year, 2010/11–2024/25



proj.= projected.

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

Table 6: Cumulative countries' reported sugar exports to Mexico, October 2023–May 2024, as of June 17, 2024

Origin	Quantity (metric tons)	Share in total (percent)
Brazil	305,152	50
European Union	34,833	6
Guatemala	73,856	12
Saudi Arabia	34,546	6
United States	135,006	22
Other countries	28,478	5
Total	611,869	100

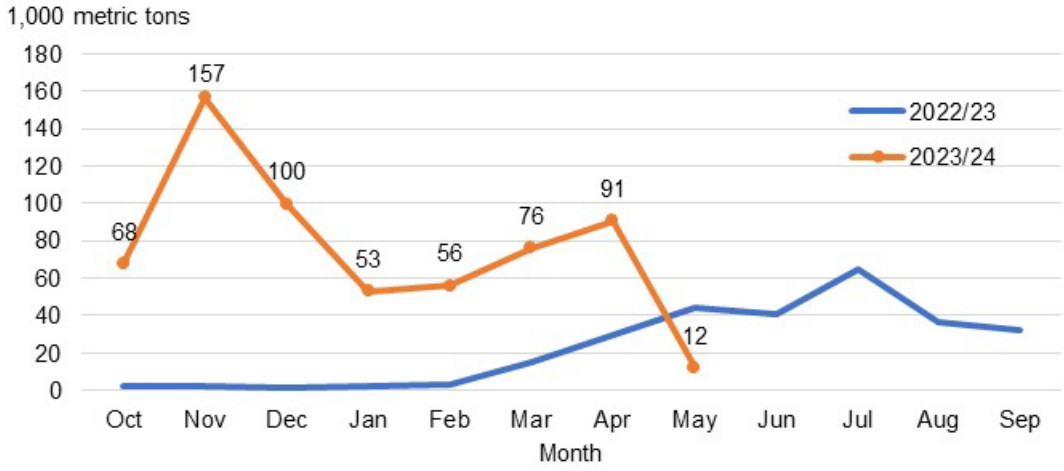
Note: Trade Data Monitor (TDM) only provides data on the reporting countries' total exports to Mexico; there is no delineation on whether the exports are for IMMEX purposes or for domestic consumption. It is possible that not all the sugar exports are reflected in TDM as of June 17, 2024.

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

For 2024/25, Mexico's total imports are residually reduced at 343,000 MT, about 250,000-MT lower than 2023/24, but still at the upper range as Mexico is expected to supplement the limited domestic production through importation to fulfill domestic requirements (consumption and IMMEX), exports to the United States, and maintain 2.5-months' worth of stocks to cover use in 2025/26 before the start of that year's campaign.

Figure 13

Countries' reported monthly sugar exports to Mexico, fiscal year 2022/23 and 2023/24, as of June 17, 2024



Note: Trade Data Monitor (TDM) only provides data on the reporting countries' total exports to Mexico; there is no delineation on whether the exports are for IMMEX purposes or for domestic consumption. It is possible that not all the sugar exports are reflected in TDM as of June 17, 2024.

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

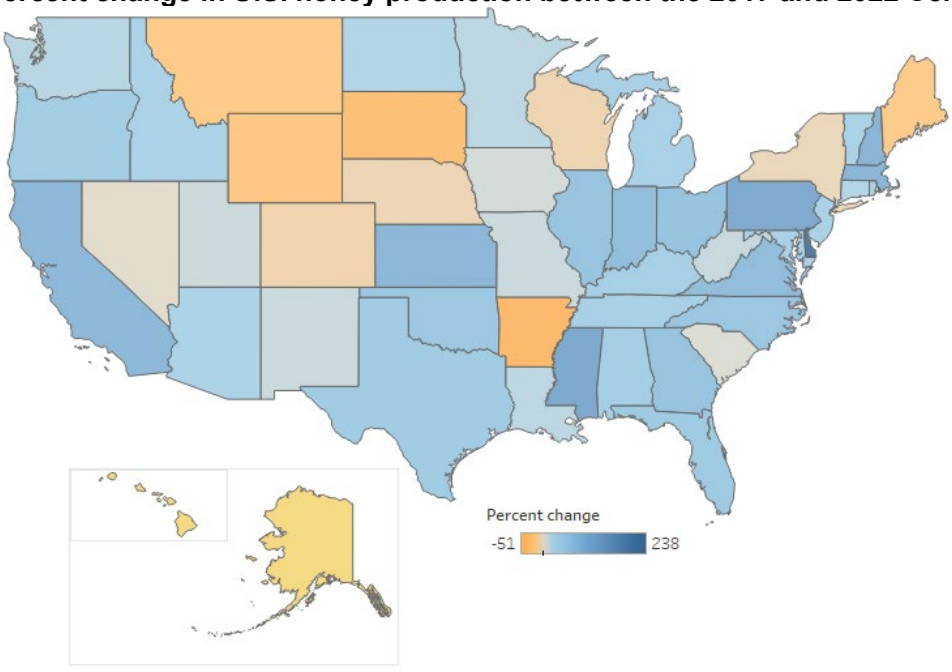
Special Article: U.S. Honey Market Update from the 2022 Census of Agriculture

U.S. honey production grew

The United States is among the top honey-producing countries, according to the database of the Food and Agriculture Organization (FAO) of the United Nations. The latest FAO database ranks the U.S. tenth in 2022 behind China, Turkey, Iran, India, Argentina, Ukraine, Russia, Brazil, and Mexico.

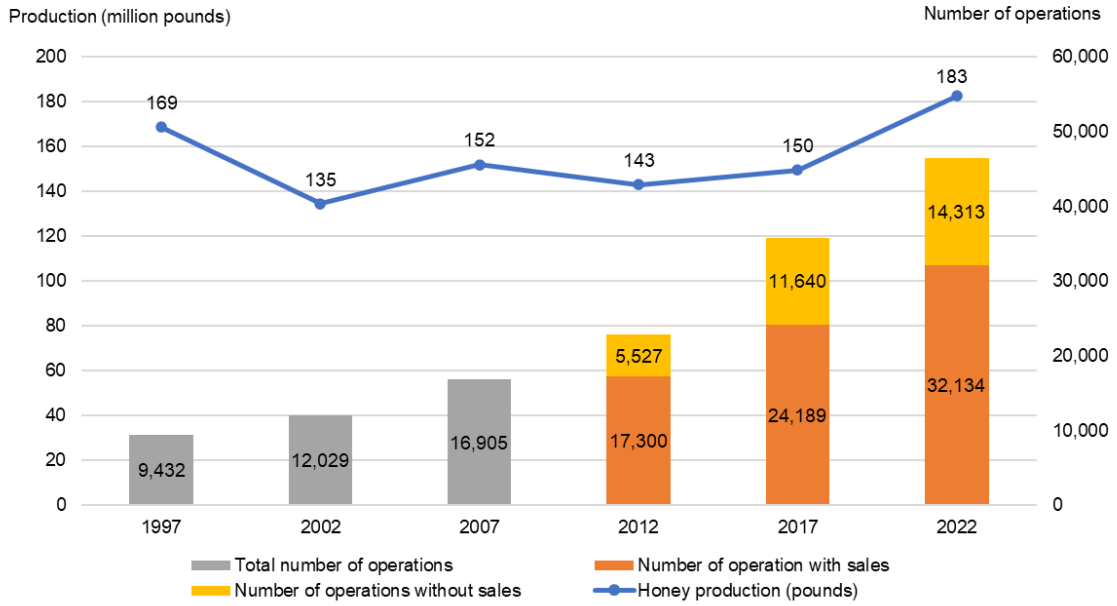
Honey is produced in every U.S. State, according to the USDA, National Agricultural Statistics Service (NASS) 2022 Census of Agriculture. Honey production increased in 38 States between 2017 and 2022 (figure 14). In 2022, domestic beekeepers collected 183 million pounds of honey, a 22-percent increase from 2017 and the largest since 1997 (figure 15). The top 10 honey-producing States are North Dakota, California, Florida, Minnesota, Montana, Texas, South Dakota, Michigan, Idaho, and Georgia (table 7), of which only Montana and South Dakota showed a decline from 2017. These major States comprised 74 percent of the total 2022 honey production. Top producer North Dakota contributed 22 percent with 41 million pounds of honey.

Figure 14
Percent change in U.S. honey production between the 2017 and 2022 Census, by State



Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Statistics Service Census of Agriculture (2017 and 2022).

Figure 15
U.S. honey production[1/] and number of operations, 1997–2022



Note: Operations without sales = Operations with production - operations with sales. The Census of Agriculture differentiated between the 2 types of operations starting in 2012. In the Census 1997, 2002, and 2007, only the total number of operations is reported.

1/ Includes honey collected that is not necessarily sold.

Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service Census of Agriculture (1997, 2002, 2007, 2012, 2017, and 2022).

Table 7: U.S. top honey-producing States' production and share of total, 1997–2022

State	1997	2002	2007	2012	2017	2022	Share in total 2022	Change between 2017 and 2022 Census	
			Million pounds				Percent	Million pounds	Percent
North Dakota	13	13	31	29	34	41	22	7	21
California	29	16	15	12	15	29	16	13	88
Florida	20	18	11	11	10	15	8	5	52
Minnesota	9	7	9	8	8	9	5	1	16
Montana	9	8	9	8	12	9	5	-3	-24
Texas	9	6	9	6	6	8	5	3	49
South Dakota	14	9	13	16	13	8	4	-5	-40
Michigan	6	5	5	4	5	6	3	2	34
Idaho	7	5	4	3	4	6	3	1	29
Georgia	3	2	3	3	3	5	3	2	66
Other States	50	45	43	42	41	48	26	7	16
United States	169	135	152	143	150	183	100	33	22

Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service Census of Agriculture (1997, 2002, 2007, 2012, 2017, and 2022).

More operations contributed to honey production growth

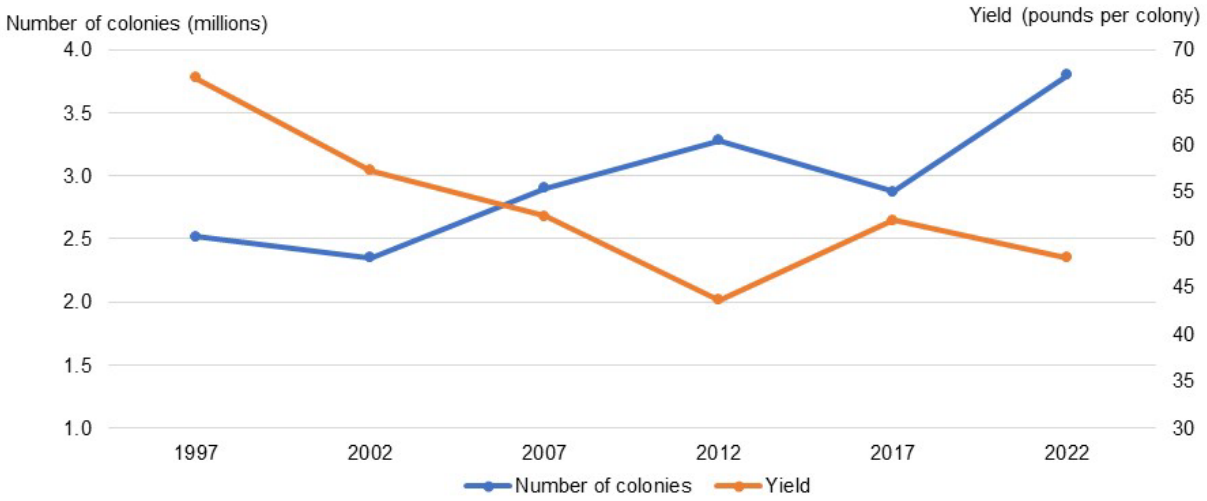
The growth in U.S. honey production in 2022 was partly due to a greater number of operations which have been increasing since 2017. Operations totaled 46,447 in 2022, up 30 percent from 2017 (figure 15). Operations with and without honey sales were identified starting in the 2012 Census of Agriculture. By 2022, the number of operations with sales totaling 32,134 represents a 33-percent increase from 2017 while operations without sales totaling 14,313, which includes hobbyists, reflects a 23-percent growth. Operations without sales played an increasing role in the U.S. honey industry and contributed a 31-percent share of the total operations in 2022, up from 24 percent in 2012. The larger number of total operations contributed to a 32-percent increase in the number of honey-producing colonies.

Higher number of colonies offset honey yield reduction

A colony means the family unit of the bees, including a queen, workers, and drones; a hive denotes the physical structure where the colony lives. Between 2017 and 2022, U.S. beekeepers increased their colonies by 30 percent, from 2.8 million to a record 3.8 million since 1997.

The growth in colonies compensated for an 8-percent decline in the 2022 U.S. average honey yield per colony, which is obtained by dividing the total pounds of honey collected by the number of colonies (figure 16). Yield has been declining since 1997 dropping as low as 44 pounds in 2012. While it recovered in 2017 to 52 pounds, yield was down to 48 pounds in 2022. The declining trend in U.S. honey yield can be attributed to several factors, including a shifting focus toward providing pollination services, threats to bee health from pests and parasites, and decreased floral foraging resources.

Figure 16
Number of bee colonies in the United States and honey yield per colony, 1997–2022

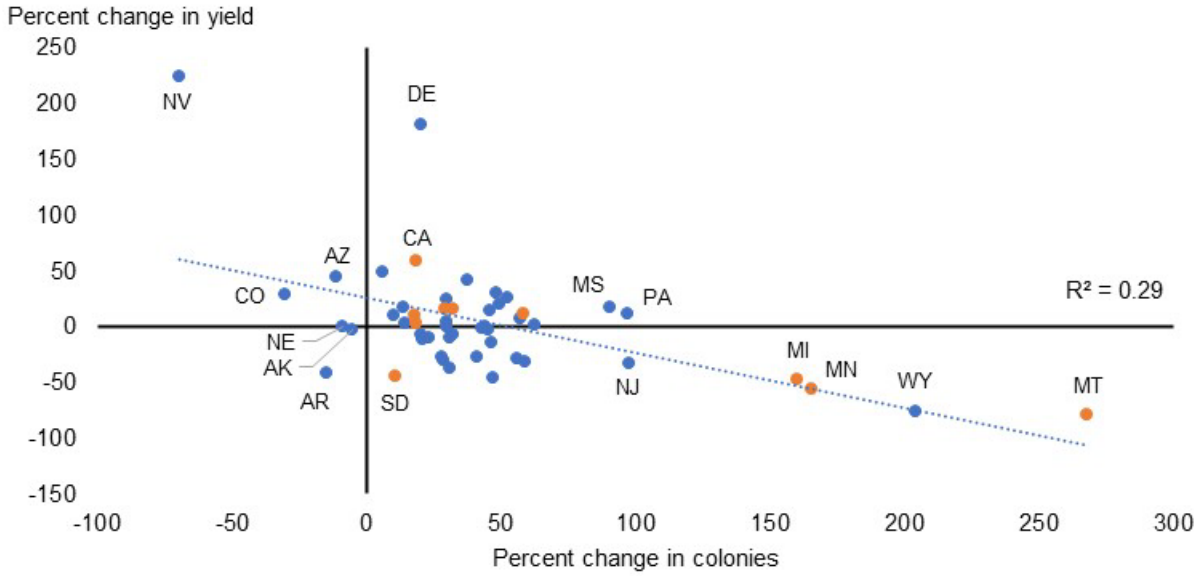


Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service Census of Agriculture (1997, 2002, 2007, 2012, 2017, and 2022).

Splitting a beehive can result in more colonies but can lead to a smaller population of bees that can struggle to produce honey, and thus can also be a factor contributing to lower yields. Between 2017–22, based on the correlation coefficient (R^2 = -0.29) and downward sloping trend line among States, there appears to be a modest negative relationship between the change in the number of colonies and the average colony's volume of honey production (figure 17). Yields declined in 22 States that experienced a growth in colonies including four top producers—Montana (colonies up 268 percent; yields down 79 percent), Minnesota (up 165 percent; down 48 percent), Michigan (up 160 percent; down 48 percent), and South Dakota (up 11 percent; down 46 percent). Conversely, 22 States saw a positive correlation (higher yields–more colonies) including the remaining top 10 States. The "higher yields–fewer colonies" situation was observed in Arizona, Colorado, and Nevada. Finally, Alaska, Arkansas, and Nebraska experienced declines in yield and colonies between 2017 and 2022.

Figure 17

U.S. States' correlation of percent change in honey yield and number of bee colonies, between 2017 and 2022



Note: The orange dots represent the top 10 honey-producing States in 2022. R^2, the correlation coefficient, represents the strength of the linear dependence between the two variables.

Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service Census of Agriculture (2017 and 2022).

Total honey sales increased

Aligned with the increase in honey production, inflation-adjusted (real value in 2012 dollars) total U.S. honey sales surged from $301 million in 2017 to $401 million in 2022—a 33-percent growth (table 8). North Dakota was the top contributor, with $79 million in sales that accounted for roughly one-fifth of the total U.S. sales in 2022. California ranked second with $56 million of sales or 14 percent of total U.S. sales. During the same period (2017–22), Texas and California exhibited substantial increases in honey sales even after adjusting for inflation. Texas experienced a 123-percent surge, from $10 million to $22 million, while California saw an 86-percent increase in sales, from $30 to $56 million.

Table 8: U.S. top honey-producing States' inflation-adjusted total sales and percent change compared with 2012 and 2017

State	2012	2017	2022	Change in 2022 compared with 2012	Change in 2022 compared with 2017	Share in U.S. total 2022
	Real value in 2012 million dollars			Percent		
North Dakota	54	62	79	48	27	20
California	20	30	56	171	86	14
Florida	19	21	31	65	46	8
Texas	12	10	22	86	123	6
Minnesota	16	13	18	16	38	5
Montana	13	21	17	24	-20	4
South Dakota	30	24	16	-47	-35	4
Michigan	7	10	14	104	47	4
Georgia	6	8	12	113	46	3
Idaho	5	8	11	127	34	3
Other States	83	93	125	51	34	31
United States	264	301	401	52	33	100

Note: The 2022 honey sales and the percentage changes were adjusted for inflation using 2012 as the base year.

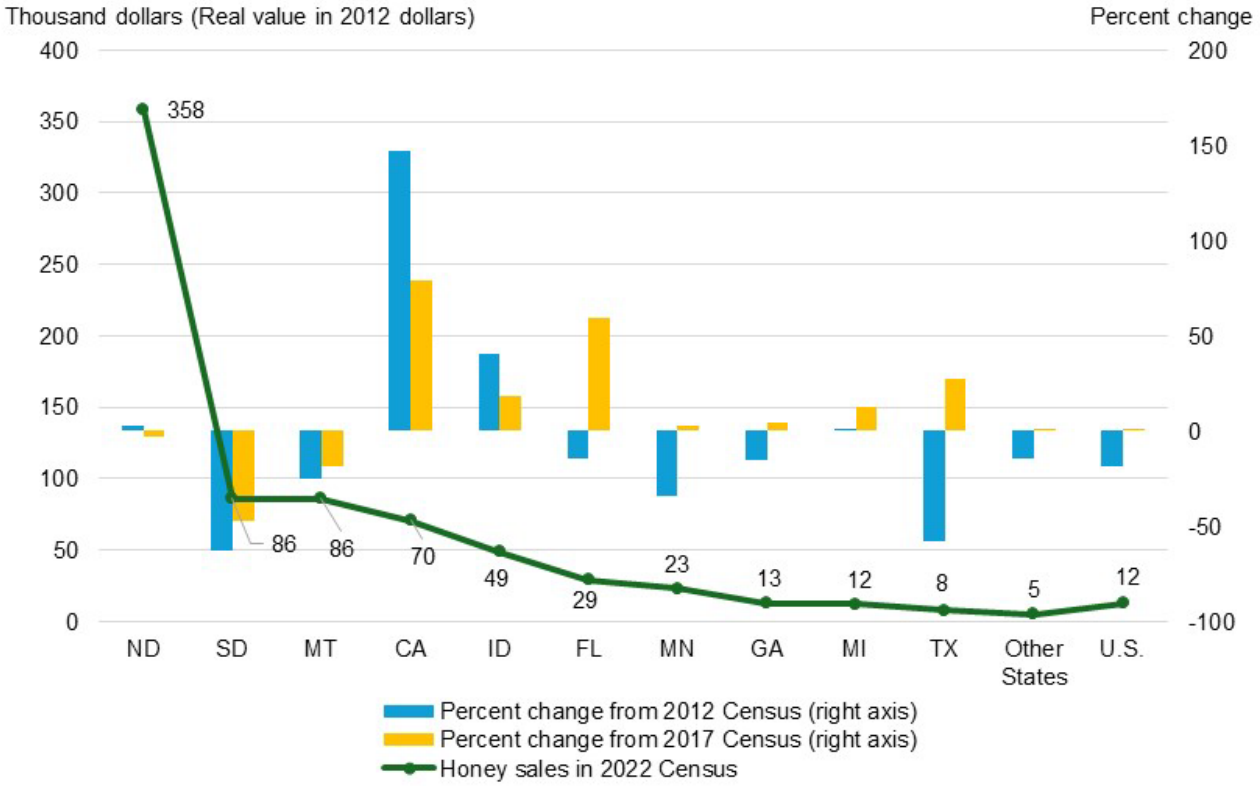
Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Service Statistics Census of Agriculture (2012, 2017, and 2022) and U.S. Department of Labor, Bureau of Labor Statistics for the inflation index.

Average U.S. Honey Sales Per Operation Mostly Stable, But Differ by State

After accounting for inflation, the average U.S. honey annual sales per operation in 2022 ($12,000 in 2012 dollars)—obtained by dividing honey sales by the number of operations with sales—was mostly unchanged from 2017 (figure 18). Notably, there were significant State-level variations. North Dakota is clearly the top State, with the highest sales per operation at about $358,000 in 2022. While Texas had the lowest among the major producers in 2022 at $8,000, this average sales per operation represents a 27-percent increase from 2017 ($6,000). In over a decade (from 2012 to 2022), California more than doubled its sales per operation, starting at about $29,000 in 2012, increasing to $39,000 in 2017 (a 147-percent increase), and reaching $70,000 (a 79-percent increase in 2022).

Figure 18

U.S. top honey-producing States' inflation-adjusted honey sales per operation in 2022 and percent change compared with 2012 and 2017



Note: The 2022 honey sales and the percentage changes were adjusted for inflation using 2012 as the base year.

Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Service Statistics Census of Agriculture (2012, 2017, and 2022) and Federal Reserve Bank of Minneapolis for the inflation index.

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