



Sugar and Sweeteners Outlook

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U.S. Sugar Market Ending Stocks for 2019/20 Raised on Higher Imports, Lower Use

The U.S. sugar market in 2019/20 is estimated to have a stocks-to-use ratio of 13.4 percent, compared with 10.4 percent the previous month. Domestic deliveries are reduced 75,000 short tons, raw value (STRV) based on lower deliveries reported in April, as consumers shifted heavily toward at-home food consumption. Imports are raised 284,000 STRV from the previous month due to higher shipments from Mexico and more high-tier imports expected. Projected ending stocks for 2020/21 remain unchanged, as higher beginning stocks are offset by lower imports from Mexico.

Mexico sugar production is raised 105,000 metric tons, actual value (MT) to 5.230 million MT, as the harvest is scheduled to conclude by the end of June. Domestic deliveries are lowered 70,000 MT. As a result, Mexico is forecast to have additional supplies for export to the United States for 2019/20.

The global sugar market is projected to see production and consumption rebound in 2020/21 on higher field and factory yields, after poor weather conditions in several major sugar-producing countries resulted in a production deficit for 2019/20. The global sugar market will be influenced by weather, public health and domestic health policies, and macroeconomic factors such as oil prices and exchange rates, however, resulting in expected market volatility.

U.S. honey production increased in 2019, but the national average price fell. Imports continue to account for most of the domestic supply, as pollinator migratory patterns follow the seasonal movement of forage areas and economic drivers.

United States Outlook

U.S. Ending Stocks Raised for 2019/20

In the USDA's June *World Agricultural Supply and Demand Estimates (WASDE)*, the U.S. total sugar supply for 2019/20 is estimated at 13.822 million short tons, raw value (STRV)—a 284,000 STRV increase from the May estimate. The increase is coupled with a 75,000-STRV decrease in estimated total use, pushing the ending stock forecast up 359,000 STRV. As a result, the 2019/20 ending stocks-to-use ratio is forecast to be 13.4 percent—an increase from the previous month's mark of 10.4 percent. The stocks-to-use ratio for 2020/21 remains projected at 12.0 percent, as higher projected beginning stocks are offset by lower expected imports.

Table 1: U.S. sugar: Supply and use by fiscal year (Oct./Sept.), June 2020

Items	2018/19	2019/20 (estimate)	2020/21 (forecast)	2018/19	2019/20 (estimate)	2020/21 (forecast)
	1,000 Short tons, raw value			1,000 Metric tons, raw value		
Beginning stocks	2,008	1,783	1,632	1,822	1,617	1,481
Total production	8,999	8,024	9,005	8,163	7,280	8,169
Beet sugar	4,939	4,285	4,965	4,480	3,887	4,504
Cane sugar	4,060	3,740	4,040	3,683	3,393	3,665
Florida	2,005	2,100	2,105	1,819	1,905	1,910
Louisiana	1,907	1,513	1,800	1,730	1,372	1,633
Texas	147	127	135	134	115	122
Hawaii	0	0	0	0	0	0
Total imports	3,070	4,015	3,097	2,785	3,642	2,809
Tariff-rate quota imports	1,541	2,180	1,395	1,398	1,978	1,266
Other program imports	438	350	350	397	318	318
Non-program imports	1,092	1,485	1,351	990	1,347	1,226
Mexico	1,000	1,255	1,301	908	1,138	1,181
High-duty	91	230	50	83	209	45
Total supply	14,076.75	13,822	13,734	12,770	12,539	12,459
Total exports	35	35	35	31	32	32
Miscellaneous	28	0	0	26	0	0
Deliveries for domestic use	12,231	12,155	12,230	11,096	11,027	11,095
Transfer to sugar-containing products for exports under re-export program	98	80	80	89	73	73
Transfer to polyhydric alcohol, feed, other alcohol	27	25	25	25	23	23
Commodity Credit Corporation (CCC) sale for ethanol, other	0	0	0	0	0	0
Deliveries for domestic food and beverage use	12,106	12,050	12,125	10,982	10,932	11,000
Total use	12,294	12,190	12,265	11,153	11,059	11,127
Ending stocks	1,783	1,632	1,469	1,617	1,481	1,332
Private	1,783	1,632	1,469	1,617	1,481	1,332
Commodity Credit Corporation (CCC)	0	0	0	0	0	0
Stocks-to-use ratio	14.50	13.39	11.97	14.50	13.39	11.97

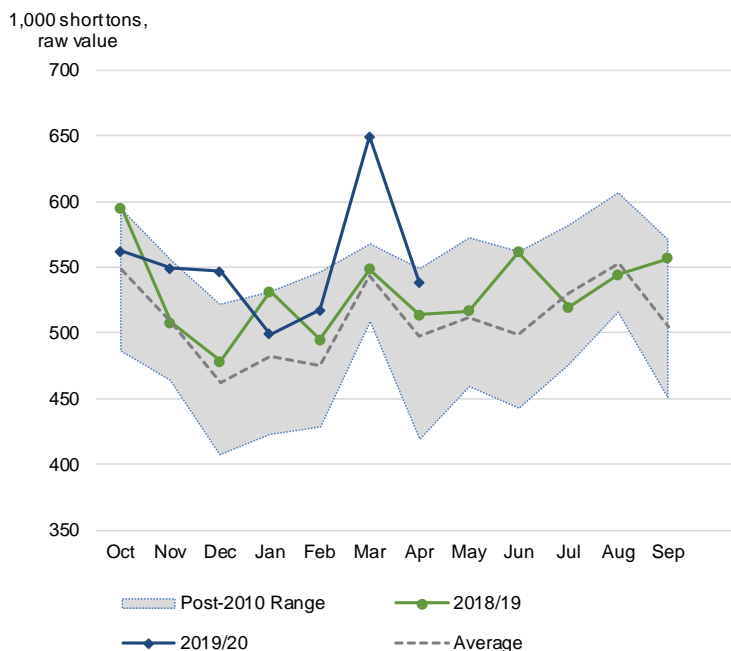
Source: USDA, Economic Research Service, Sugar and Sweeteners Outlook.

U.S. Sugar Deliveries for 2019/20 Reduced

Total U.S. sugar use is estimated at 12.190 million STRV for 2019/20. The decrease from the May estimate is due to lower domestic deliveries for food and beverage use, which is reduced 75,000-STRV to 12.050 million STRV. The social and economic impacts of the COVID-19 pandemic have been a factor in the market since mid-March when many U.S. States and municipalities began issuing public policies that altered consumers' behavior. There are several key data points observed that resulted in the lowering of estimated deliveries, and these data points will likely be incorporated in future decisions as additional data and market information become known.

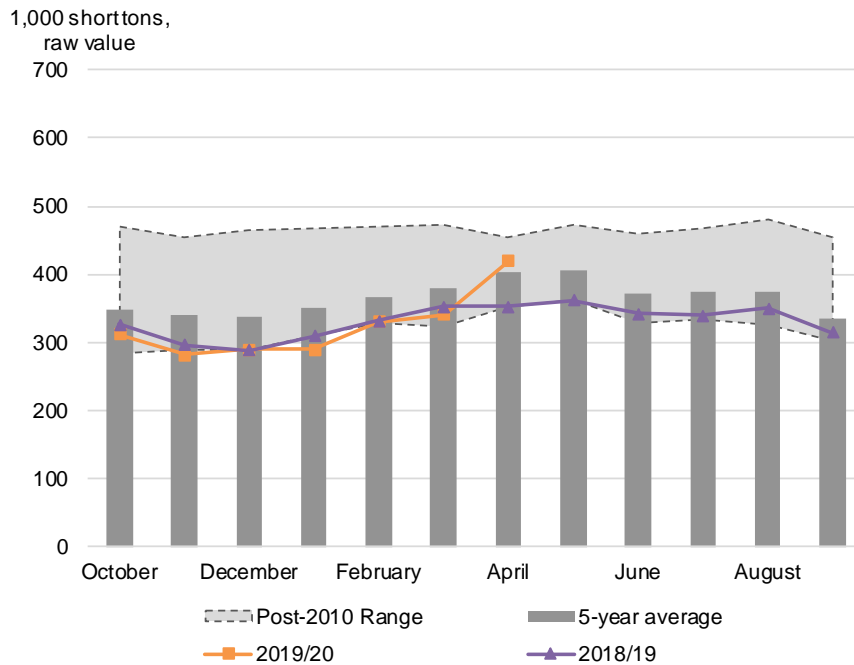
After a record-setting melt by cane sugar refiners in March, cane refiners' output was significantly lower in April—although still above average. Additionally, cane refiners' refined sugar inventories increased. This change in April coincided with the market impacts of social distancing guidelines and various local public policy restrictions. It indicates that cane refineries substantially lowered their utilization rates and potentially saw a buildup of product due to lower-than-expected shipments. This is particularly notable as it occurred just as the cane-refining sector was beginning to substantially increase its output to make up for supply shortages seen in the beet-processing sector.

Figure 1
Sugarcane refiners melt, monthly, 2016/17 to 2019/20



Source: USDA, Farm Service Agency.

Figure 2
Sugarcane refiners' refined sugar inventories, monthly, 2016/17 to 2019/20



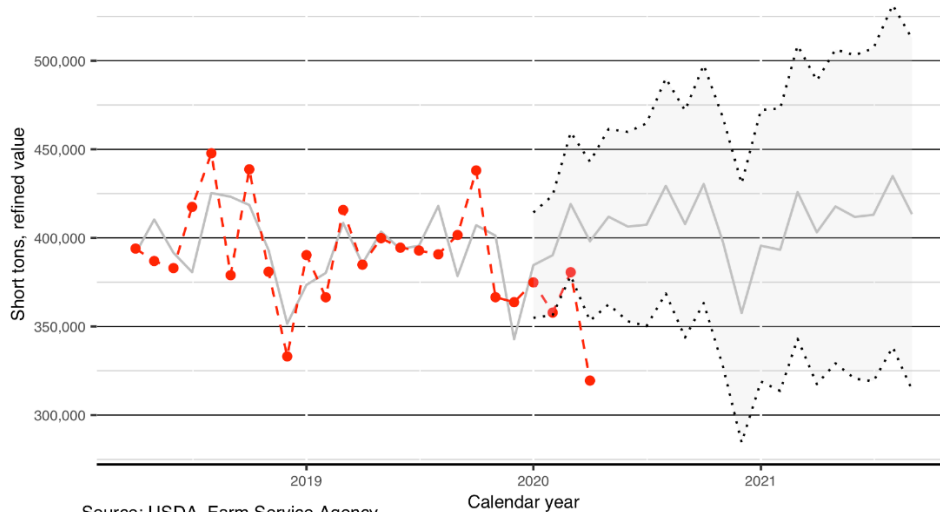
Source: USDA, Farm Service Agency.

Additionally, data reported by the Farm Service Agency's (FSA) *Sweetener Market Data* (SMD) provide information that can reveal some of the recent shift of consumers eating more food at home and less away from home. Using data provided by reporters to the SMD of deliveries by package type as a proxy for at-home versus away-from-home sugar consumption, some inferences can be made about the impact of the recent market developments.

Bulk shipments of sugar have been lower than expected since January 2020. Much of this is attributed to low beet sugar production and the force majeure that have occurred this year due to a record amount of sugarbeets that went unharvested during the 2019 harvest season. The reduction in bulk shipments is likely offset, at least partially, by the increase in non-reporter deliveries that include high-tier tariff imports, imports from the increased refined tariff rate quota (TRQ) announced in April, and additional amounts of sugar from free-trade agreements (FTA) that come in without need of further refinement. Bulk deliveries in April, however, were even lower than in previous months. This additional decline is likely the impact of the business disruptions caused by COVID-19.

Figure 3

Bulk shipments, actual sugar deliveries (red), modeled deliveries (gray), and 80% confidence interval (black)



Deliveries of sugar in large packaging (bags larger than 50 pounds) and liquid sugar also were lower than expectations in April, despite the spike seen in both categories in March. This is likely representative of fewer shipments for food manufacturers, as well as segments of the food service industry that purchases sugar in larger bags and packaging.

Figure 4

Liquid shipments, actual sugar deliveries (red), modeled deliveries (gray), and 80% confidence interval (black)

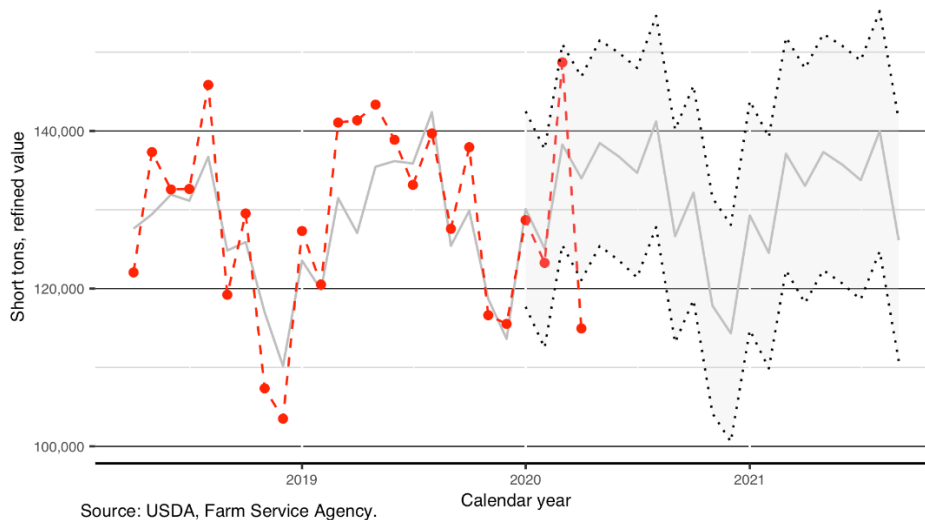
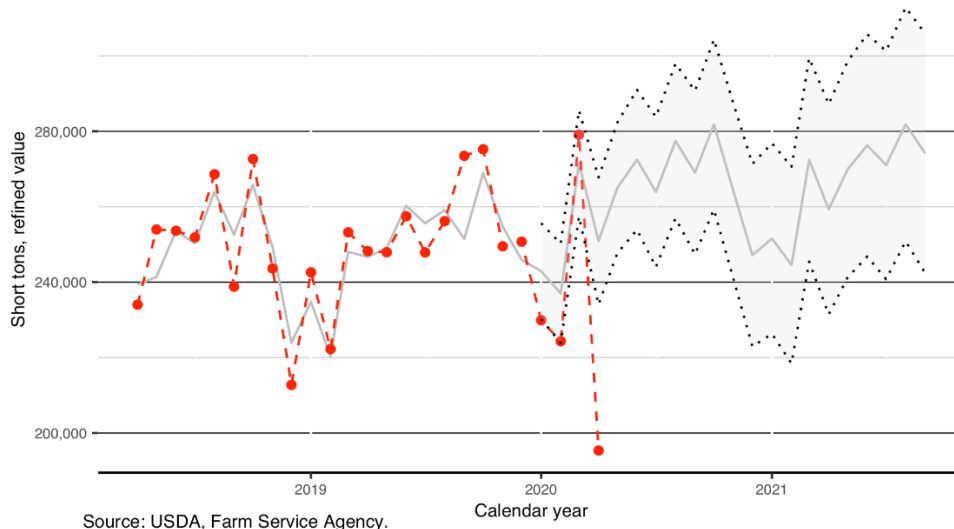


Figure 5

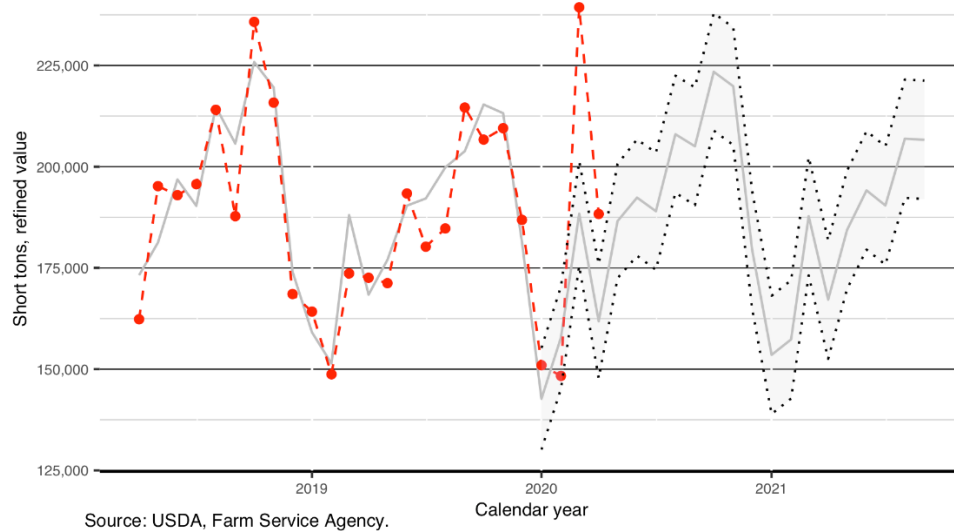
Larger (more than 50 lbs.) packages, actual sugar deliveries (red), modeled deliveries (gray), and 80% confidence interval (black)



Finally, deliveries in consumer-sized packages were higher than normal in April. This is likely a continuation of the increase observed in March as consumers shifted to more at-home consumption. The increase in consumer-sized package deliveries is not large enough to offset the decreases seen in the other categories, however.

Figure 6

Consumer-sized packages, actual sugar deliveries (red), modeled deliveries (gray), and 80% confidence interval (black)



Ultimately, the reduction in deliveries for food and beverage use reflects the net impact seen thus far as a result of the economic disruptions of COVID-19. Through April, total deliveries are

2.5 percent higher than the same period the previous year, but this is entirely due to the growth in non-reporter deliveries. Deliveries from the domestic beet processing and cane refining sectors were 0.4 percent lower over that period.

Table 2: Food and beverage deliveries, 2014/15 to 2019/20, October through April

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	Annual change
	<i>1,000 short tons, raw value</i>						<i>Percent</i>
Beet sugar processors	2,744	2,548	3,032	3,060	2,886	2,696	-6.6
Cane sugar refiners	3,525	3,692	3,473	3,426	3,611	3,778	4.6
Total reporters	6,269	6,240	6,505	6,486	6,497	6,474	-0.4
Nonreporter, direct consumption	319	498	455	374	504	703	39.4
Total deliveries	6,588	6,738	6,960	6,860	7,001	7,176	2.5
Final fiscal year deliveries 1/	11,921	11,881	12,102	12,048	12,106	12,050	-0.5

1/ Latest WASDE estimate for 2019/20.

Source: USDA, Farm Service Agency.

Deliveries for food and beverage use for 2020/21 are projected at 12.125 million STRV, unchanged from the previous month's forecast. This would represent a 0.6-percent annual increase from the previous year. Like the outlook for 2019/20, however, deliveries in the next fiscal year will be subject to the outlook of public health and the macroeconomy.

Outlook for Production Remains Unchanged for 2019/20 and 2020/21

U.S. sugar production for 2019/20 is estimated at 8.024 million STRV, unchanged from the previous month's estimate. Beet sugar production for 2019/20 is estimated at 4.285 million STRV, also unchanged. The slicing campaign is nearing its end for all processors heading into the summer months, particularly with the small sugarbeet crop that was harvested this year. Eyes are now turning to the 2020/21 sugarbeet crop, with the planting season completed by the end of May. Planting progress was behind the historical average in many States but reports from processors indicate that development conditions have been conducive for a sugarbeet crop in line with longer-term trends and averages. Beet sugar production for 2020/21 is projected at 4.965 million STRV, also unchanged from the previous month, based on the assumption that sugarbeet-producing regions face normal weather conditions during the development and harvest stages of the crop.

Table 3: Beet sugar production projection calculation, 2019/20 and 2020/21

	2015/16	2016/17	2017/18	2018/19	2019/20	2019/20	2020/21	2020/21
					May	June	May	June
Sugarbeet production (1,000 short tons) 1/	35,371	36,881	35,325	33,282	28,600	28,600	33,671	33,671
Sugarbeet shrink	6.5%	8.3%	7.3%	5.2%	5.7%	5.7%	6.6%	6.6%
Sugarbeet sliced (1,000 short tons)	33,066	33,834	32,742	31,561	26,984	26,984	31,454	31,454
Sugar extraction rate from slice	14.58%	13.72%	15.18%	14.77%	14.31%	14.31%	14.51%	14.51%
Sugar from beets slice (1,000 STRV) 2/	4,820	4,643	4,970	4,660	3,861	3,861	4,564	4,564
Sugar from molasses (1,000 STRV) 2/	380	352	368	352	337	337	360	360
Crop-year sugar production (1,000 STRV) 2/	5,201	4,995	5,338	5,012	4,198	4,198	4,924	4,924
August-September sugar production (1,000 STRV)	688	606	715	655	582	582	633	633
August-September sugar production of subsequent crop (1,000 STRV)	606	715	655	582	633	633	638	638
Sugar from imported beets (1,000 STRV) 3/	--	--	--	--	36	36	36	36
Fiscal year sugar production (1,000 STRV)	5,119	5,103	5,279	4,939	4,285	4,285	4,965	4,965

1/ USDA, National Agricultural Statistics Service for historical data. 2/ August-July basis. 3/ Sugar from imported beets split out for projections only, included in total once full crop-year slice is recorded. Sugar from imported beets is incorporated into total production in historical data.

Note: STRV = short tons, raw value.

Source: USDA, Economic Research Service and World Agricultural Outlook Board.

Cane sugar production for 2019/20 is estimated at 3.740 million STRV, unchanged from May. Florida is the only sugarcane-producing State that is still reporting production for its 2019/20 harvest that concluded earlier this month. Production for 2020/21 is projected to total 4.040 million STRV, also unchanged from May. The current projections are in line with processors' first forecast submitted through the SMD for June. The first crop data reported by the National Agricultural Statistics Service (NASS) for the upcoming sugarcane crop will be released at the end of the month in the *Acreage* report, which will include the first forecast of harvested area in Florida, Louisiana, and Texas.

Table 4: U.S. sugarcane and cane sugar production, by State, 2015/16 to 2019/20

	2015/16	2016/17	2017/18	2018/19	2019/20	Annual change
	<i>Percent</i>					
Florida						
Sugarcane harvested for sugar (1,000 acres)	398	392	397	397	397	0.0
Sugarcane yield (short tons per acre)	42.5	40.3	40.9	41.7	42.8	2.6
Sugarcane production (1,000 short tons)	16,915	16,120	16,237	16,555	16,992	2.6
Recovery rate (percent)	12.8	12.7	12.2	12.1	12.4	2.0
Sugar production (1,000 STRV)	2,173	2,055	1,983	2,005	2,100	4.7
Louisiana						
Sugarcane harvested for sugar (1,000 acres)	385	400	414	425	442	4.0
Sugarcane yield (short tons per acre)	29.6	28.8	32.5	35.3	27.7	-21.5
Sugarcane production (1,000 short tons)	11,396	11,520	13,455	15,003	12,243	-18.4
Recovery rate (percent)	12.5	14.2	13.8	12.5	12.4	-1.1
Sugar production (1,000 STRV)	1,428	1,632	1,862	1,875	1,513	-19.3
Texas						
Sugarcane harvested for sugar (1,000 acres)	35	38	41	38	31	-16.8
Sugarcane yield (short tons per acre)	31.4	37.0	36.8	36.6	33.6	-8.2
Sugarcane production (1,000 short tons)	1,105	1,395	1,490	1,376	1,052	-23.6
Recovery rate (percent)	10.5	9.9	11.3	10.7	12.1	12.8
Sugar production (1,000 STRV)	116	138	169	148	127	-13.8

Note: STRV = short tons, raw value.

Source: USDA, Farm Service Agency; USDA, National Agricultural Statistics Service.

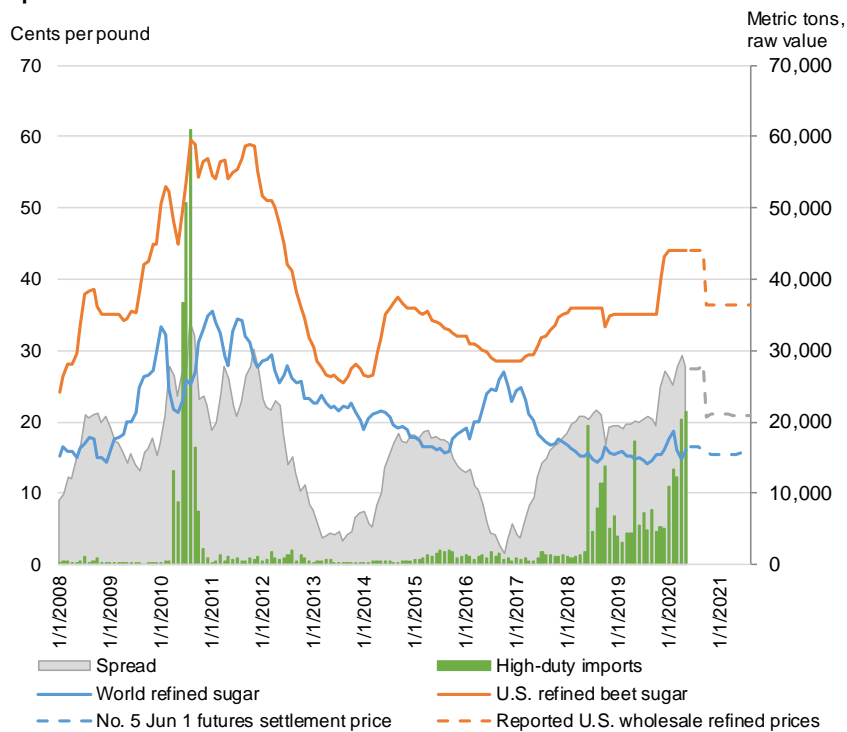
Estimated Imports Raised for 2019/20

Imports are estimated to be 4.015 million STRV for 2019/20, a 284,000-STRV increase from the May estimate. The increases are due to additional shipments expected from Mexico, as well as

more high-tier tariff imports, entering at the full duty rate. Imports from Mexico are estimated at 1.255 million STRV, a 204,000-STRV increase from the May estimate. The increase is due to changes to the Mexico sugar balance table that allows additional supplies to be shipped to the United States. Additional information on the Mexico balance table can be found in the subsequent section of this report.

Estimated high-tier tariff imports are raised 80,000 STRV, totaling 230,000 STRV, in the May WASDE. Large, persistent price differentials between the U.S. wholesale prices for refined sugar and the World futures price for refined sugar have provided an opportunity for traders to import sugar economically, even with the full duty rates applied to those shipments. Additionally, the increased refined WTO TRQ announced in April and implemented through tranches in April, May, and July, have been oversubscribed, meaning that there is more sugar waiting to clear Customs than there is space within the quota. Much of that sugar is expected to enter the U.S. market in the coming months, as well, with payment of full duty rates.

Figure 7
U.S. and World refined sugar prices, monthly, January 2008 to September 2021



Source: USDA, Economic Research Service.

Imports for 2020/21 are projected at 3.096 million STRV, a 359,000-STRV reduction from the May report. The reduction is due to changes in the preliminary calculation of U.S. Needs, as

calculated by the U.S. Department of Commerce (USDOC). The first calculation for 2020/21 fiscal year will be done by the USDOC subsequent to the July WASDE.

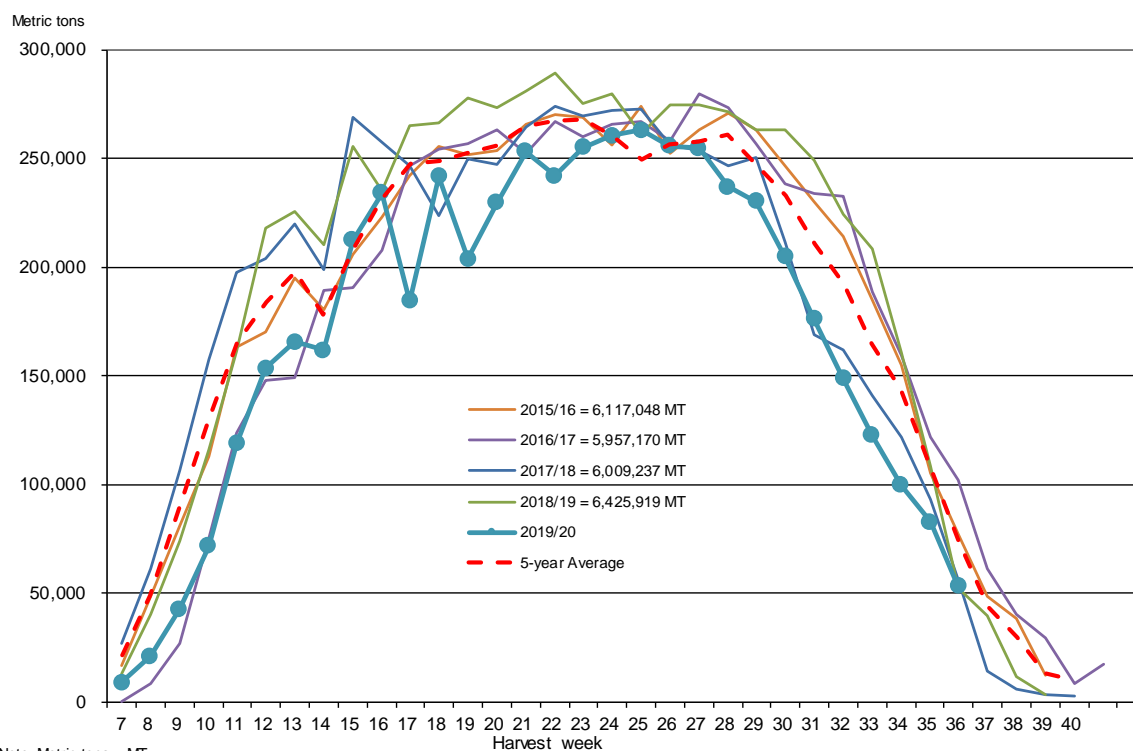
Mexico Outlook

Mexico Production for 2019/20 Raised as Harvest Reaches Final Weeks

Mexico's 2019/20 sugarcane harvest campaign is expected to reach its conclusion by the end of June. At the beginning of the month, the majority of sugar mills had concluded their harvest season. In particular, most of the mills in the Gulf, Northeast, and Southeast regions that have been severely impacted by drought have nearly all completed their seasons.

Through June 6, Mexico has produced 5.189 million metric tons, actual value (MT) of sugar. As a result, June WASDE estimates are raised 105,000 MT to 5.230 million MT. It is the Pacific region of the industry that is primarily still in production. The remaining few weeks are expected to produce relatively small totals of production, but since this is the region that was least affected by the drought conditions, the yields and recovery rates have been relatively higher than what has been reported throughout the harvest.

Figure 8
Mexico sugar production, by week of harvest, 2015/16-2019/20



Note: Metric tons = MT
Source: Conadesuca.

Table 5: Mexico sugar supply and use 2018/19 - 2019/20 and projected 2020/21, June 2020

Items	2018/19	2019/20 (estimate)	2020/21 (forecast)
	1,000 metric tons, actual weight		
Beginning stocks	1,395	1,169	953
Production	6,426	5,230	6,100
Imports	85	89	89
Imports for consumption	22	24	24
Imports for sugar-containing product exports, IMMEX 1/, other	63	65	65
Total supply	7,905	6,488	7,142
Disappearance			
Human consumption	4,092	4,057	4,140
For sugar-containing product exports (IMMEX)	460	365	435
Other deliveries and end-of-year statistical adjustment	-20	0	0
Total	4,532	4,422	4,575
Exports	2,204	1,113	1,614
Exports to the United States & Puerto Rico	856	1,074	1,114
Exports to other countries	1,348	39	500
Total use	6,737	5,535	6,189
Ending stocks	1,169	953	953
	1,000 metric tons, raw value		
Beginning stocks	1,478	1,239	1,010
Production	6,811	5,544	6,466
Imports	90	94	94
Imports for consumption	23	25	25
Imports for sugar-containing product exports (IMMEX)	67	69	69
Total supply	8,380	6,877	7,571
Disappearance			
Human consumption	4,337	4,300	4,388
For sugar-containing product exports (IMMEX)	488	387	461
Other deliveries and end-of-year statistical adjustment	-21	0	0
Total	4,804	4,687	4,850
Exports	2,337	1,180	1,711
Exports to the United States & Puerto Rico	908	1,138	1,181
Exports to other countries	1,429	42	530
Total use	7,141	5,867	6,560
Ending stocks	1,239	1,010	1,010
Stocks-to-human consumption (percent)	28.6	23.5	23.0
Stocks-to-use (percent)	17.3	17.2	15.4
High-fructose corn syrup (HFCS) consumption (dry weight)	1,528	1,493	1,493

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

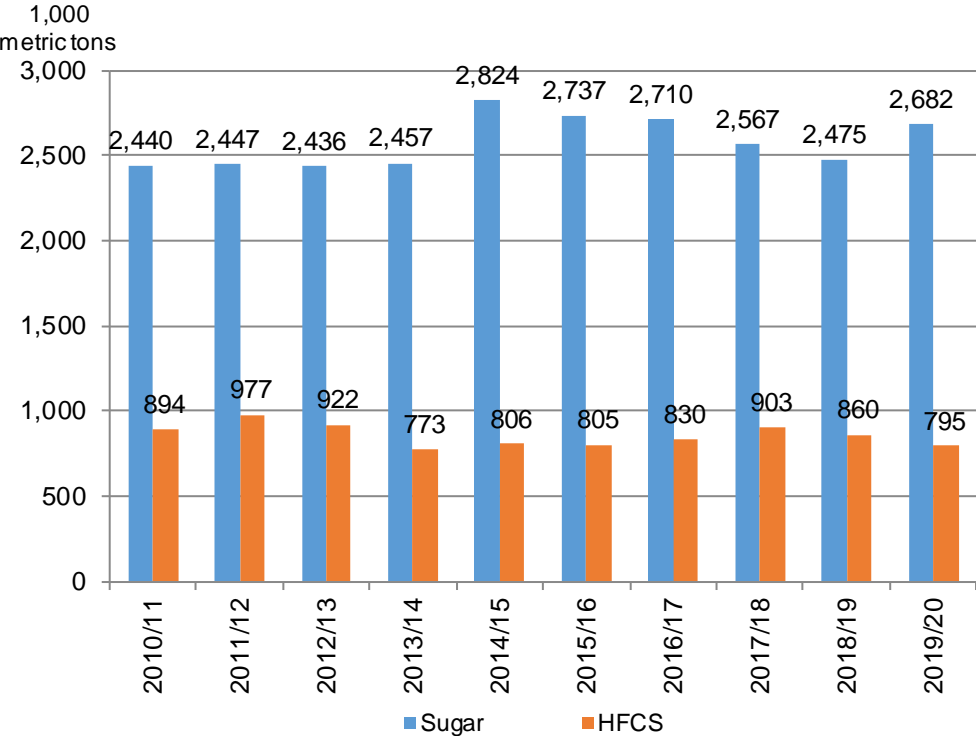
Source: USDA, *World Agricultural Outlook Board*; USDA, Economic Research Service; Conadesuca.

Production for 2020/21 is projected at 6.100 million MT, unchanged from the previous month. This is predicated on an alleviation of the drought conditions during the critical rainy season this summer. Conadesuca typically releases its first forecasts for the upcoming crop year by late summer or early fall.

Domestic Deliveries Lowered Due to Fewer IMMEX Deliveries

Domestic deliveries in Mexico in 2019/20 are lowered 70,000 MT from the May forecast, totaling 4.422 million MT. Domestic deliveries for consumption are unchanged at 4.057 million MT, however. Through April, Conadesuca reports that domestic sugar deliveries for consumption are 8.3 percent higher than a year ago. Part of this offsets the 7.6-percent decline in high-fructose corn syrup (HFCS). The monthly domestic deliveries series is volatile—particularly given the impact of COVID-19 on Mexico’s consumers and economy—but reports from the Foreign Agricultural Service (FAS) Mexico City Post state that sugar demand and demand for products remain strong in the country.

Figure 9
Mexican sweetener consumption October to April, 2010/11 to 2019/20



Source: Conadesuca.

Domestic deliveries to the IMMEX program are reduced 70,000 MT to 365,000 MT in the June report based on FAS Post reporting. With tight domestic sugar supplies, robust domestic demand, and export markets, shipments of domestic sugar to IMMEX customers may be lowered or perhaps made with imported sugar. Currently, the WASDE estimates that 65,000 MT of sugar will be imported for the IMMEX program, which facilitates exports of Mexican-produced products.

Mexico Exports Raised for 2019/20

With production raised and fewer deliveries to the IMMEX expected for 2019/20, additional supplies are available for exports. Exports for 2019/20 are projected at 1.113 million MT, a 175,000-MT increase from the May estimate. The export forecast is predicated on Mexico maintaining a 2 ½-month supply of domestic deliveries as ending stocks, which would allow the market to bridge the period between the end of the fiscal year in September with the beginning of the harvest season in November and December.

Shipments to the United States are estimated at 1.074 million MT, accounting for the entirety of the increase. Shipments to other countries are estimated at 39,000 MT. Through June 7, Mexico had shipped 35,000 MT to non-U.S. destinations and to the U.S. re-export program. Nominal amounts of shipments under this category are expected for the remainder of the fiscal year.

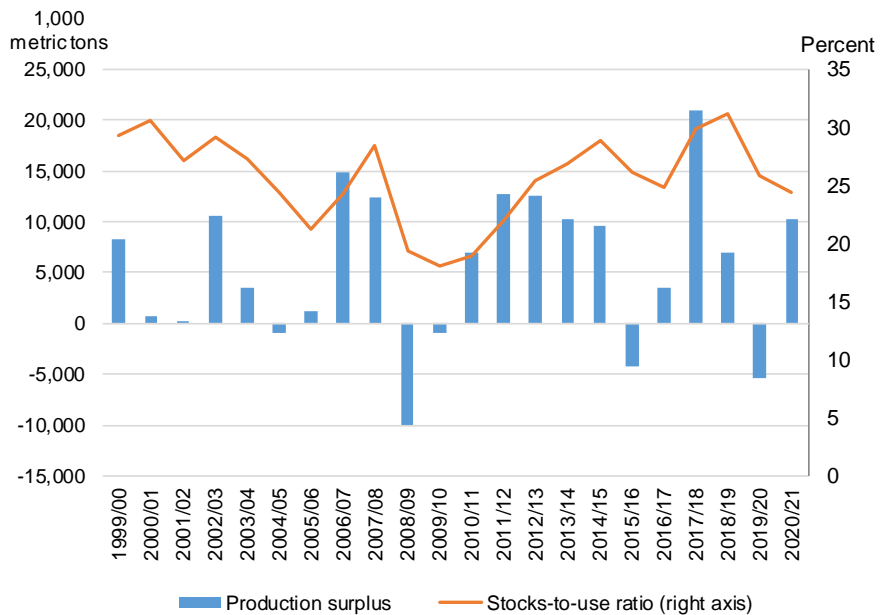
Global Sugar Outlook

After Production Deficit in 2019/20, Supplies Tighten Marginally in 2020/21

On May 21, 2020, the USDA's Foreign Agricultural Service (FAS) released its latest *Sugar: World Markets and Trade* report, along with updated sugar market data in its *Production, Supply, and Distribution* (PSD) database. The update includes revisions to market data for 2019/20 and includes the first projections for the 2020/21 marketing year. The estimates and projections are based, primarily, upon reports submitted by FAS staff posted in foreign embassies and consulates through the *Global Agricultural Information Network* (GAIN), many of which are released publicly. The reports were submitted in April and May, which coincided with the many developments in markets due to the global COVID-19 pandemic. To understand how the pandemic was factored into the forecasts, it is best to look to the country-level GAIN reports for the underlying economic and public health conditions at the time of submission.

The global sugar market is estimated to have a production deficit of more than 5 million metric tons, raw value (MTRV) in 2019/20. The deficit is the result of a 7.5-percent decrease in global sugar production, compared with the previous year, mostly due to poor weather conditions for several major sugar-producing countries. Global domestic consumption also fell, but by a much smaller rate of 0.6 percent. Although production figures for 2019/20 were reduced from the November 2019 forecast, ample inventories kept supplies available to the market. The global stocks-to-use ratio for 2019/20 remains at 25.8 percent. The relatively high stocks-to-use ratio has kept downward pressure on world sugar futures prices for the past several years.

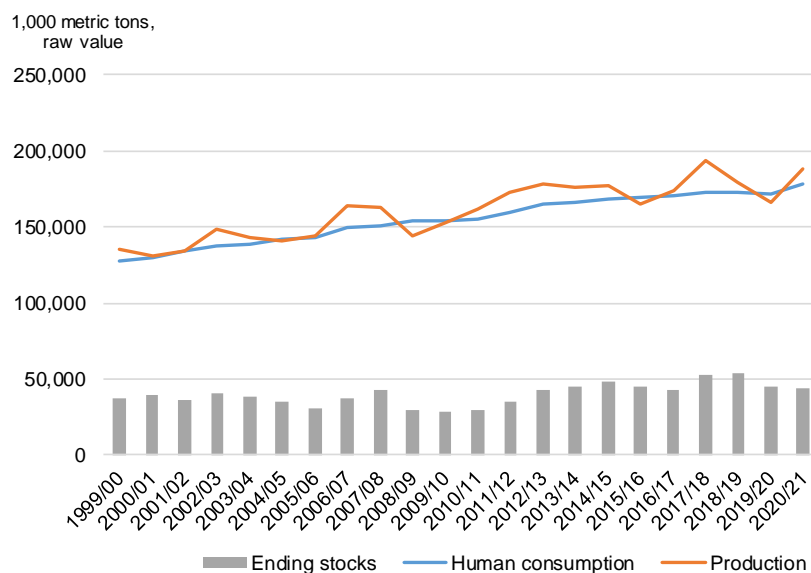
Figure 10
World sugar production, human consumption, and production surplus, 1999/00 to 2019/20



Source: USDA, Foreign Agricultural Service.

Both production and consumption are projected to rebound in 2020/21. Global production is projected to increase 13.1 percent—based on a return to normal weather conditions---and human consumption is projected to increase 3.6 percent, due primarily to strong growth in South and Southeast Asia. The result is that the global stocks-to-use ratio is expected to fall to 24.4 percent.

Figure 11
World sugar production, human consumption, and production surplus, 1999/00 to 2020/21

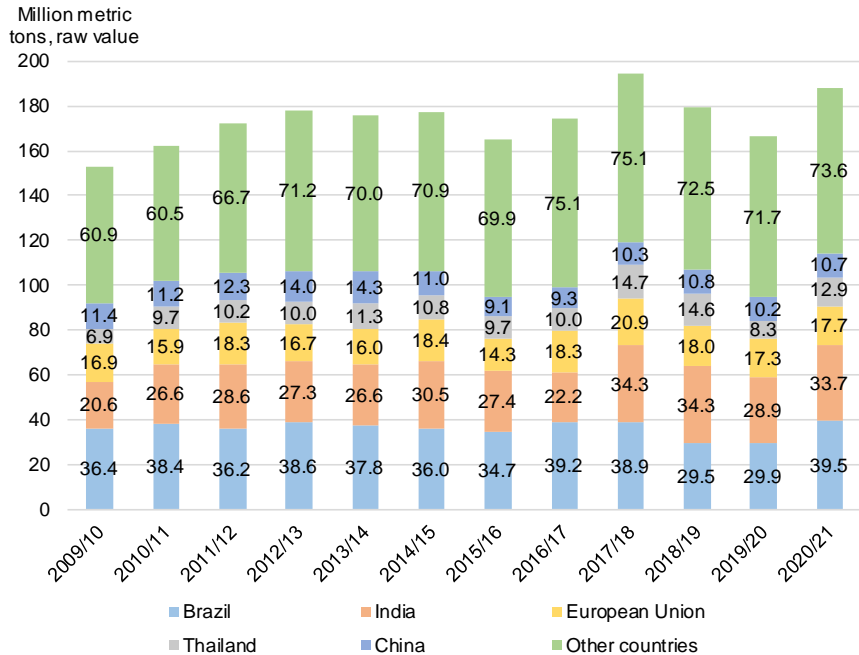


Source: USDA, Foreign Agricultural Service.

Weather Conditions Reduce Production, Supplies in 2019/20, But Production Projected to Rebound in 2020/21

Several major sugar-producing countries experienced weather-related production decreases in 2019/20—most notably the severe drought in Thailand, typically the world’s fourth-largest producer and second-largest exporter. Global production in 2019/20 is estimated at 166.2 million MTRV, compared with 179.8 million MTRV.

Figure 12
World sugar production 2009/10 to 2020/21



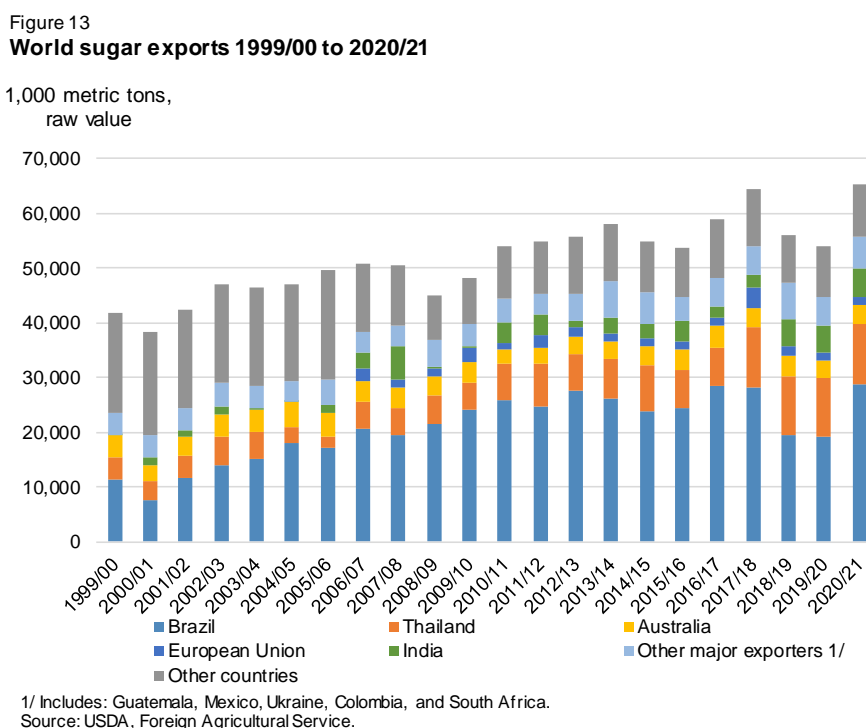
Source: USDA, Foreign Agricultural Service.

In Thailand, severe drought between December 2019 and February 2020 dramatically affected sugarcane production and reduced domestic sugar production by a substantial 43.4 percent in 2019/20. This development was largely responsible for the increased global production deficit during 2019/20. Thailand’s sugar industry is primarily export-oriented, typically shipping between 45 and 65 percent of its total supply to foreign markets. The shortfall in production resulted in a substantial drawdown in domestic stocks to maintain its export levels. Thailand exports in 2019/20 increased slightly from 10.6 million MTRV in 2018/29 to 10.7 MTRV in 2019/20. In order to maintain its export program, however, Thailand drew down its ending stocks—resulting in the stocks-to-use ratio in the country falling from a historically high 63.6 percent in 2018/19 to a more normal 27.0 percent in 2019/20.

With normal weather conditions anticipated for the 2020/21 crop, Thailand’s sugarcane sector is projected to produce 12.9 million MTRV of sugar—in line with historical levels---and exports are projected to continue increasing to 11.0 million MT. The lasting impact of the drought on Thailand’s sugar market will be the reduced ending stocks levels. Thailand’s ending stocks are projected to fall from 3.5 million MTRV in 2019/20 to 2.9 million in 2020/21. This still leaves the country with a stocks-to-use ratio of nearly 22 percent, however.

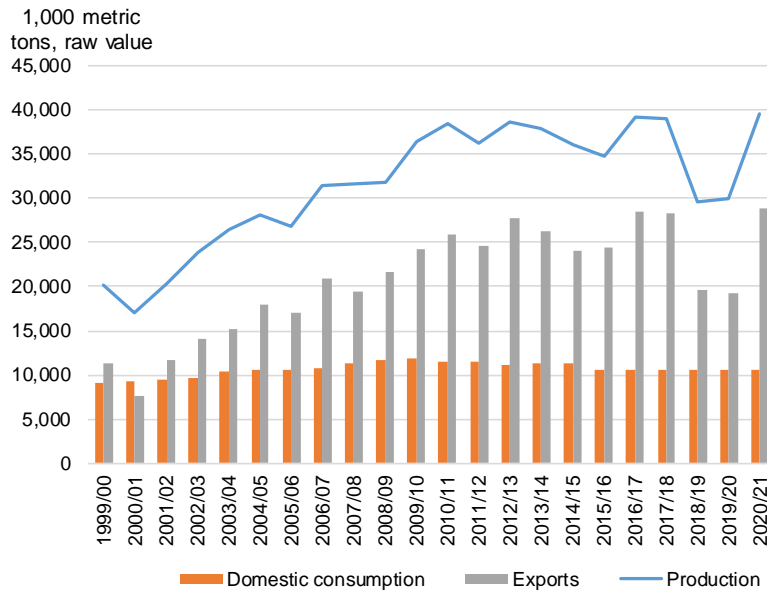
Exports and Domestic Use Projected to Rebound with Higher Supplies

Expected increases in both production and use for 2020/21 drive higher export projections as well. After several years of low prices and large domestic inventories, global exports are projected to increase more than 20 percent from 2019/20 levels. Much of that growth is due to increases in Brazil and Thailand, which alone account for the majority of the world's exports. Higher exports are also projected for other major exporters as well, including Australia (6.6-percent increase), European Union (25.0 percent), and Mexico (72.1 percent).



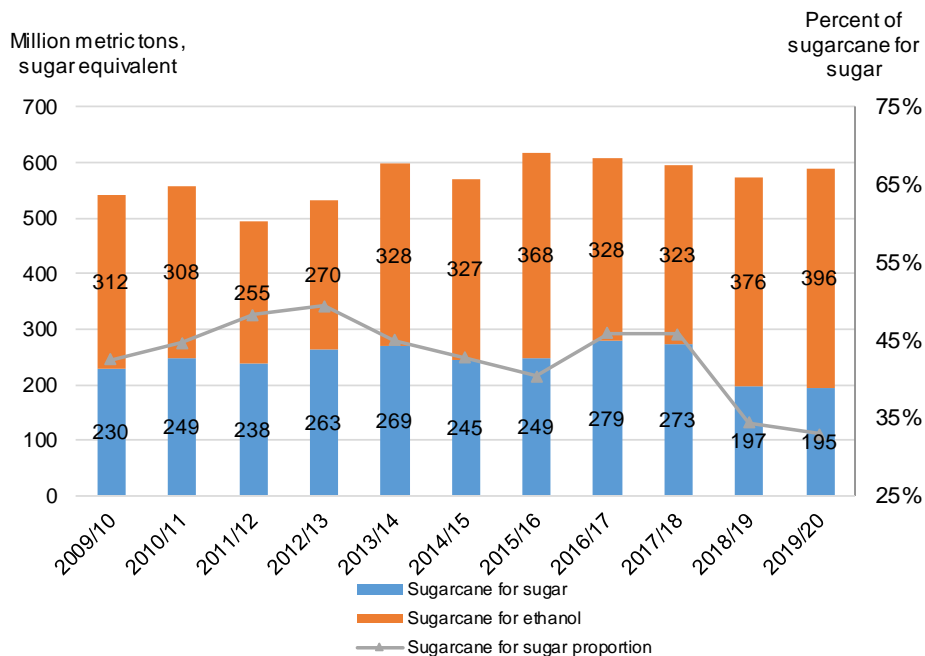
Brazil has historically been the world's largest sugar producer and exporter. That is expected to continue in 2020/21. Low global prices in recent years have resulted in Brazilian sugarcane growers and processors diverting a larger share of their crop to ethanol production, which is a significant part of the country's transportation fuel market. In 2018/19 and 2019/20, the proportion of the sugarcane crop used for sugar production fell to the lowest level in at least 10 years. Higher sugar prices, weakening domestic demand for fuel, and a depreciating currency are all expected to drive increases in both production and exports for 2020/21.

Figure 14
Brazil sugar production, exports, and domestic consumption
1999/00 to 2019/20



Source: USDA, Foreign Agricultural Service.

Figure 15
Brazil Center-South sugarcane production and use, April-to-March marketing year

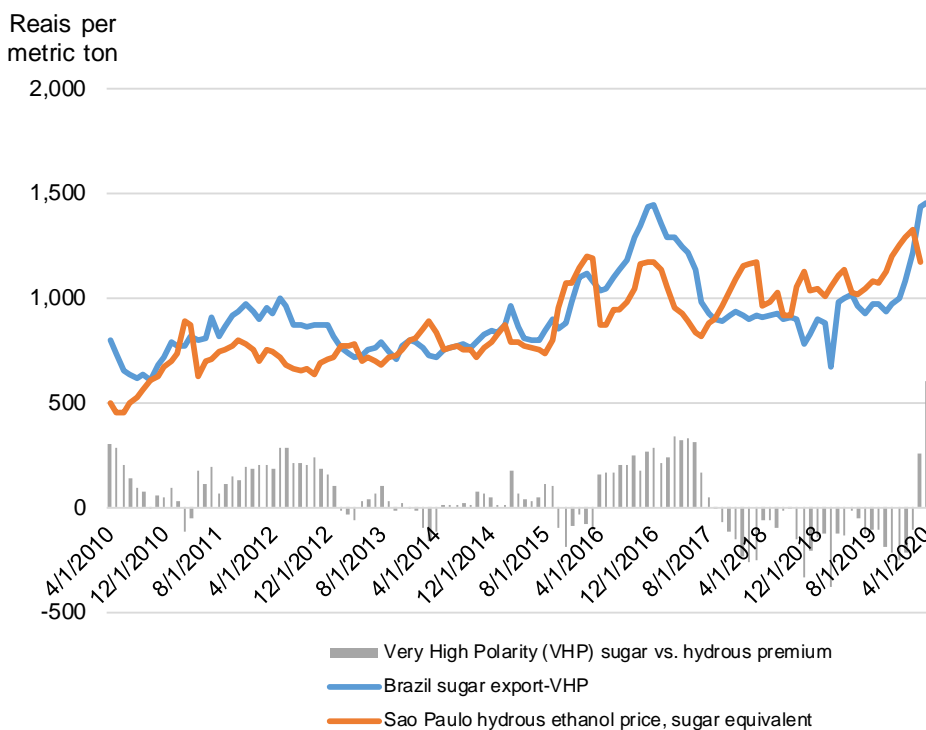


Source: Brazilian Sugarcane Industry Association (UNICA).

Significant market uncertainties remain, however. Fuel use in Brazil fell steeply in March, according to local government data—affecting both gasoline (which is blended with at least 27

percent anhydrous ethanol) and hydrous ethanol sales at the pump. As a result, the relative prices for Very High Polarity (VHP) sugar (marketed for export) and domestic hydrous ethanol switched substantially beginning in March and continuing into April. This should support sugar exports as the Brazilian 2020/21 harvest gets underway. Public health conditions, as Brazil sees increases in COVID-19 cases; high volumes of agricultural products, particularly soybeans, causing delays and congestion in Brazilian ports; and a volatile exchange rate, could have important impacts on the fundamentals of Brazil's sugar sector over the course of the year.

Figure 16
Brazil sugar export and domestic ethanol prices, 2010/11 to 2019/20

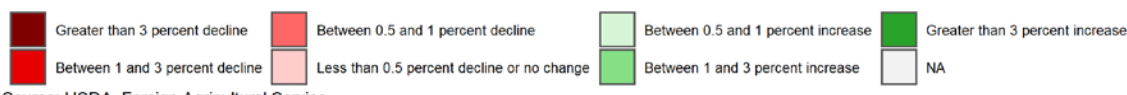
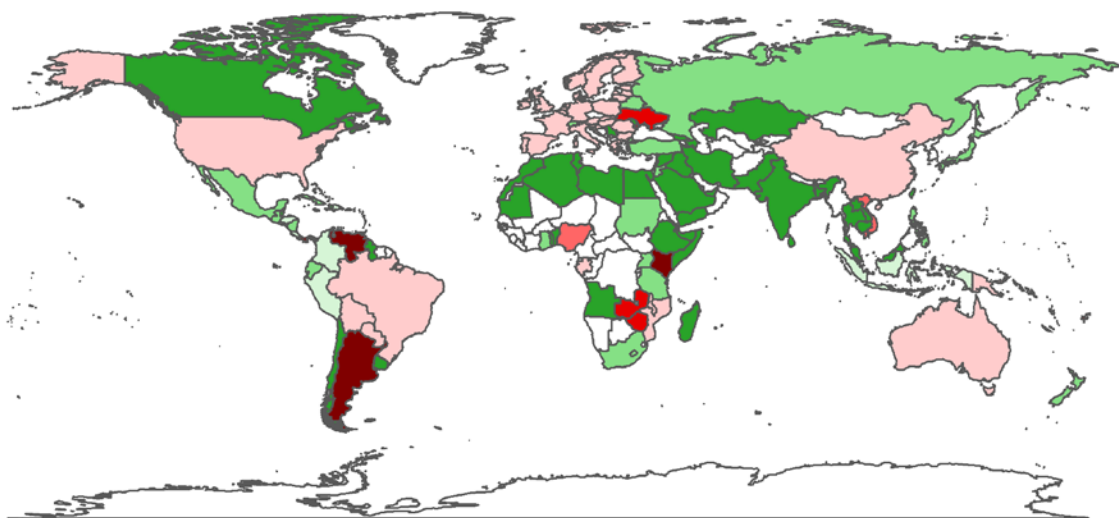


Source: Brazilian Ministry of Agriculture.

Global sugar use for human consumption is projected to be 177.8 million MTRV, a 3.6-percent increase over the 2019/20 revised estimate of 171.6 million MTRV. After 2 years of small declines in use, the current projection reflects a return to the longer-term trend. A good deal of the growth is projected to come from South Asia (including the world's largest consumer, India), Southeast Asia (including the world's largest importer, Indonesia), and Africa. Several of the world's top-consuming countries are projected to have no growth, however, including the European Union, China, the United States, and Brazil.

Figure 17

Annual change in sugar use for human consumption from 2019/20 to 2020/21



As with exports, however, uncertainties surrounding consumption exist due to COVID-19. Sudden disruptions in economies, sectors, or supply chains that alter consumers' eating or consumption patterns may pose a source of volatility in 2020/21.

U.S. Honey and Pollinator Markets

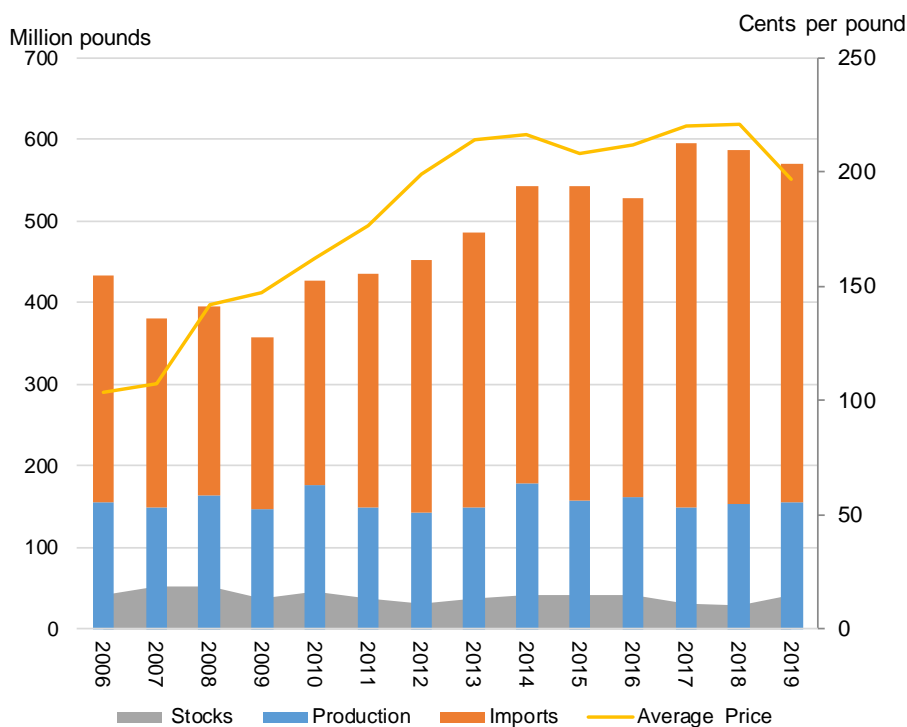
U.S. beekeepers harvest more honey in 2019 but receive lower prices

Managed honey bees collect nectar and pollen from flowering plants and produce and store honey on frames inside of hives that can be pulled out by beekeepers. According to NASS's latest *Honey* report published in April, U.S. honey production alone generated \$309.1 million in revenue in 2019. While significant, this is a marked decline (down 9 percent) from the \$340.4 million generated in 2018. Lower prices received for honey contributed to the observed year-to-year decline in the value of honey production. The average price per pound in 2019 is estimated by NASS at \$1.97 compared to \$2.21 in 2018.

Abundant honey supplies created downward pressure on prices

Collectively, U.S. bee colonies produced nearly 3 million more pounds of honey last year for a total of 156.9 million pounds. Expanded domestic production combined with imports of 415.8 million pounds and carry-in stocks from 2018 of more than 29 million to create the third-largest supply of honey on record. At 602.1 million pounds, the total U.S. supply of honey in 2019 is down just slightly from 2018 but above the 5-year average of 598 million and well above the 10-year average supply of 535 million pounds. Carryout for 2019 is estimated at 41 million pounds, up 40 percent above 2018 ending stocks and evidence of slackness in the domestic honey balance sheet.

Figure 18
U.S. honey supplies and prices, 2006-2019



Note: Stocks held by producers.
 Source: USDA, Farm Service Agency.

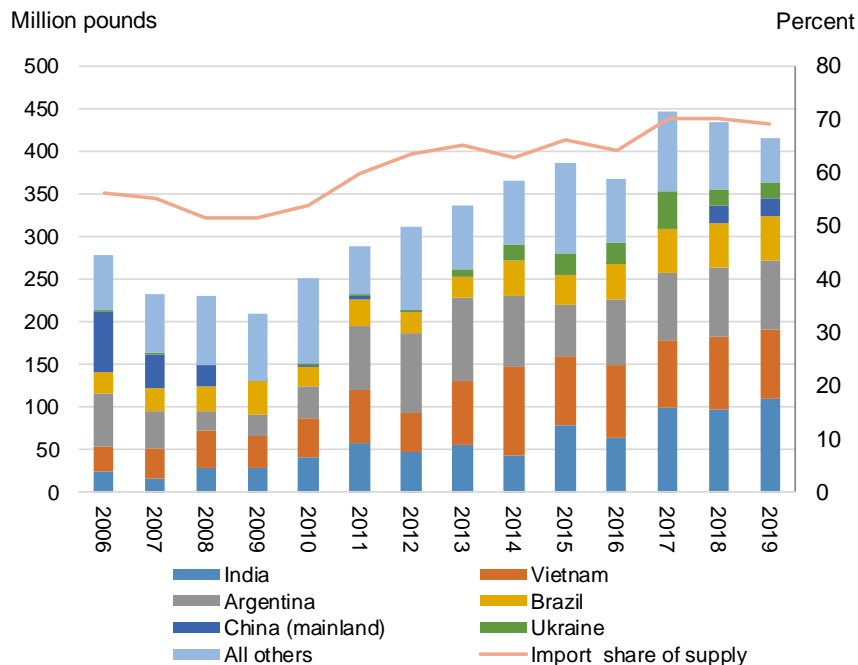
Imports continue to comprise the majority of U.S. honey supplies

Over the past 10 years, U.S. honey production averaged about 157 million pounds, a nearly identical volume to the estimated production for 2019. While domestic production has been relatively stable, imports have trended up from 251 million in 2010 to nearly 416 million in 2019. Since 2006, imported honey has accounted for the majority of U.S. honey supplies. In that year, approximately 56 percent of honey in the United States was sourced from foreign countries, with the majority—25 percent of total imports—supplied by China. In recent years, U.S. imports of honey from China have ceased, following claims of adulteration and dilution that resulted in the imposition of a 25-percent tariff. Increasingly, imported honey has been sourced from Argentina, Vietnam, and India, which combined to provide 62 percent of total honey imports in 2016 and 65 percent in 2019.

In 2019, imported honey represented 69.1 percent of total U.S. supplies, on par with the 3-year average, and consistent with a trend toward increased reliance on imports to supply honey for domestic consumption. Domestic consumption (total supplies less exports and ending stocks)

have steadily increased since the late 1980s, in part due to a growing U.S. population, but also due to increasing per capita demand for honey and honey-sweetened products.

Figure 19
U.S. honey imports by country and import share of total supplies, 2006-2019



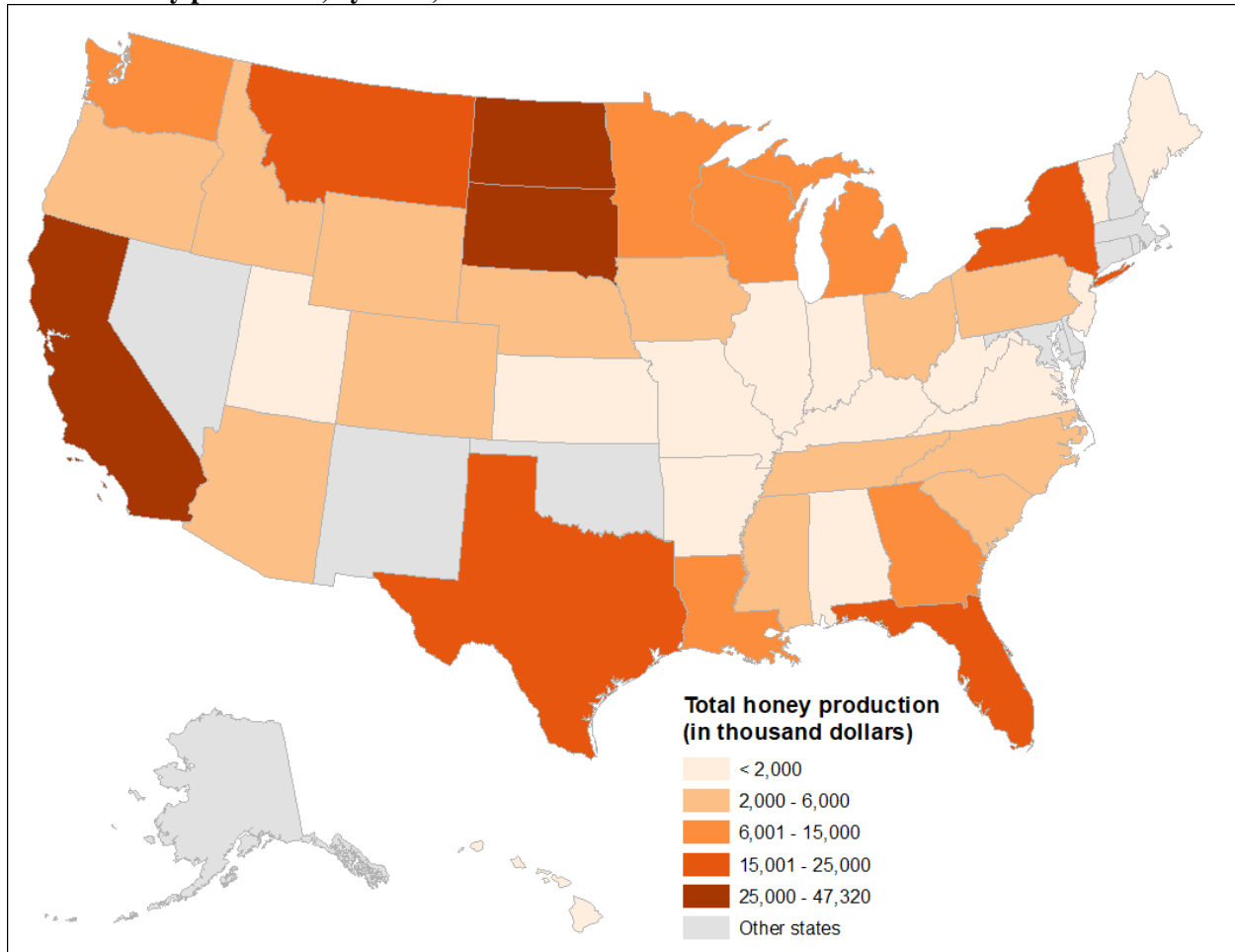
Source: U.S. Dept. of Commerce, Census Bureau.

U.S. beekeepers transport bee colonies long distances to find nectar-rich forage

Growth in demand for honey has corresponded with a period of rising costs of production for U.S. beekeepers who have had to contend with heightened overwinter losses, reduced forage opportunities, and significant disease pressure. The demand for good forage to produce honey drives beekeepers to move their colonies after the crop pollination season to forage-rich areas of the country where honey can be produced and colony numbers and health can rebound.

Good forage resources are typically associated with higher volumes of honey production. North Dakota and other States in the Northern Great Plains, including South Dakota, Montana, and Minnesota, are known for their foraging grounds. A combination of a short growing season, ample precipitation, and cooler temperatures, results in a burst of flowering plants over the summer that beekeepers seek out for their colonies. Not surprisingly, North Dakota leads the nation in honey production, while Montana and South Dakota are also formidable producers. In terms of value, more than 15 percent of U.S. honey in 2019 was produced in North Dakota.

Figure 20
Value of honey production, by State, 2019

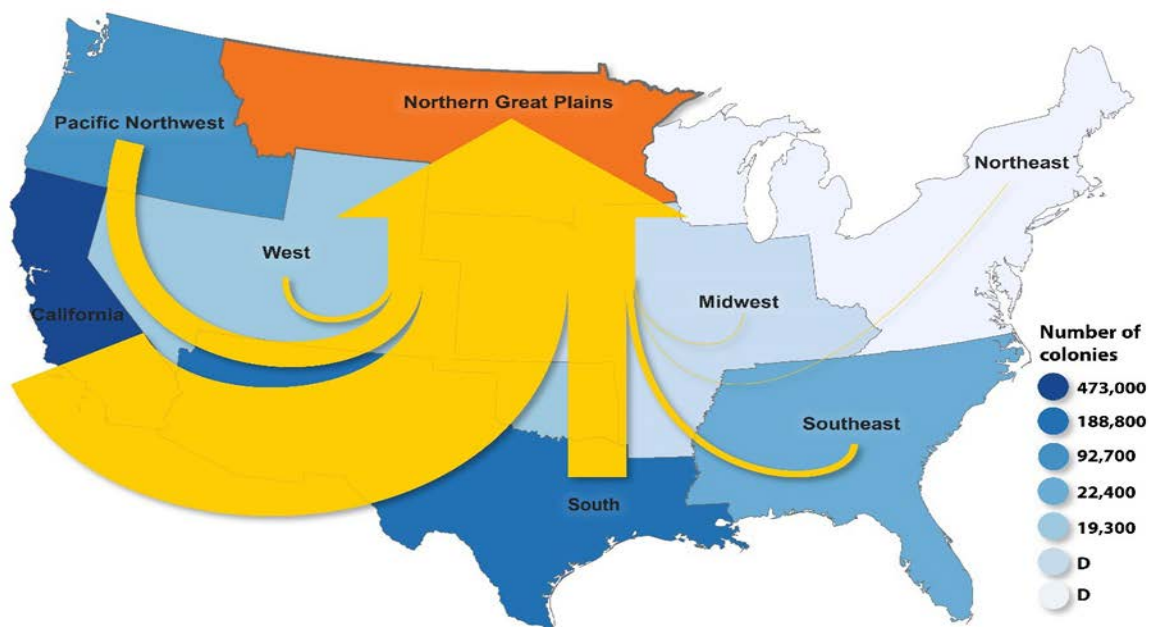


Note: Honey colonies that produced honey in more than one State were counted in each State where the honey was produced.
 Source: USDA, National Agricultural Statistics Service (NASS), Honey Report (USDA-NASS 2019a).

Several States have laws that require separation of apiary sites to protect forage resources. These separation mechanisms are called exclusion zones. During the summer months, when almost a third of all colonies are moved into the Northern Great Plains, there is a 3-mile exclusion zone in South Dakota and Montana while Wyoming has a smaller 2-mile exclusion zone and North Dakota has none. The smaller the exclusion zone, the more proportionally land is accessible for foraging. This, in part, explains why North Dakota annually draws an estimated 40 percent of all commercial hives to the forage-opportunity rich State. Indeed, during spring and summer, the number of colonies in the Northern Great Plains more than quadruples.

Figure 21

Honey bee colony movements into the Northern Great Plains from January 1, 2017, to July 1, 2017



Note: D – Estimate not shown to avoid disclosing data for individual operations. The width of the arrows is proportional to the number of colonies moved.

Sources: USDA, Economic Research Service analysis using USDA, National Agricultural Statistics Service, Colony Loss Survey (USDA-NASS, 2018).

The movement of honey bee colonies around the United States is dominated by two events: an influx into California for almond pollination in February and an outflow into the Northern Great Plains for access to high-quality forage in the summer. At the beginning of 2018, almost half of the colonies in California had been in California since July 1, 2017. These 540,000 resident colonies remained in California for the second half of 2017 or left and returned within that period. Further, these commercial honey bee colonies—which likely were in position to aid in the early spring almond pollination—were also available to supplement the smaller-scale use of other wild and managed pollinators in the pollination of alfalfa (July), melons (August), sunflowers (August), and squash (September). Resident California colonies may also be producing honey during the summer months when colonies are not foraging in almond orchards. According to NASS, honey was pulled from 335,000 colonies in California in 2019. States with the greatest influx of non-resident or transitory colonies include those in the Northern Great Plains, such as North and South Dakota, where 432,000 and 140,000 colonies present on July 1, 2018, were not in those States on January 1, 2018, representing more than 90 percent of colonies in those States. In 2019, North Dakota led the nation in number of honey-producing colonies with 550,000, nearly 20 percent of all honey-producing colonies in the U.S. At 72

pounds per colony, the yield for North Dakota honey producing hives is also well above the national average.

U.S. honey production stable, dependent upon wide-ranging honey bee colonies

In order to produce honey and provide pollination services, U.S. beekeepers move their hives an average of more than 1,150 miles per year based on data reported in the latest USDA, *NASS Colony Loss Survey*. For many colonies, the forage-rich acres of the Great Northern Plains are a destination for honey production. Indeed, the States of this region accounted for more than 40 percent of all the honey produced in the United States in 2019. However, for all the regional resources, growing demand for honey and honey-sweetened food products has led to an increasing dependence on imported product. With the majority of domestic honey supplies now sourced from overseas, it is clear that honey production and transportation require a journey of many thousands of miles before the finished product appears on grocery shelves.

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