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Sugar and Sweeteners Outlook

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Projected U.S. Sugar Production in 2016/17 Remains at Record Levels

The next release is
February 15, 2017

Approved by the
World Agricultural
Outlook Board.

Projected U.S. sugar production in 2016/17 is lowered in the January *World Agricultural Supply and Demand Estimates* (WASDE) to 9.313 million short tons, raw value (STRV), compared with the previous month, but remains a fiscal year record. Beet sugar production remains unchanged at 5.371 million STRV, while cane sugar production is reduced 29,000 STRV to 3.942 million, mainly based on lower production expected in Louisiana as its harvest season concludes. Total U.S. sugar imports are projected to be 2.694 million STRV, reduced slightly due to adjustments in projected imports under quota programs. Total use for 2016/17 is projected to be 12.180 million STRV, unchanged from the December projection, including 12.000 million STRV projected to be delivered domestically for food and beverage use. Projected ending stocks are reduced 31,000 STRV compared with the previous month's figure, at 1.881 million STRV, resulting in a stocks-to-use ratio of 15.4 percent.

Mexico sugar production in 2016/17 is projected to total 6.371 million metric tons, actual weight (MT), unchanged from the previous month. Projected imports are increased to 60,000 MT, based on a continuation of imports from non-U.S. sources reported by official Mexican trade statistics for the 2015/16 fiscal year. Domestic deliveries are increased 50,000 MT to 4.769 million MT, to account for the increased projected imports. Exports remain unchanged at 1.470 million MT, including 832,000 MT projected to be shipped to the United States. Ending stocks are unchanged, projected at 1.229 million MT, with a stocks-to-consumption ratio of 28.0 percent.

U.S. high-fructose corn syrup (HFCS) production totaled 8.380 million short tons, dry weight, in 2015/16, a 1.4-percent decline from the previous year. Domestic use of HFCS fell 2.0 percent to 7.097 million tons. The U.S. HFCS market has relied upon exports to Mexico since 2009/10 as domestic deliveries have declined, although shipments to Mexico have remained relatively flat following strong growth between 2008/09 and 2010/11. Prices for HFCS products increased in 2015/16, as a reorganization of the United States' wet corn milling sector in recent years has allowed improved producer price outlook.

Domestic sugar production projection for 2016/17 reduced from previous month, but still record-level

The January USDA *World Agricultural Supply and Demand Estimates* (WASDE) projects total U.S. supplies at 14.061 million short tons, raw value (STRV) for 2016/17, a 31,000-STRV decrease from the previous month. Beginning stocks remain unchanged from the December projection at 2.054 million STRV.

Table 1 -- U.S. sugar: supply and use, by fiscal year (Oct./Sept.), January 2017.

| Items | 2014/15 | 2015/16 (estimate) | 2016/17 (forecast) | 2014/15 | 2015/16 (estimate) | 2016/17 (forecast) |
|--|-----------------------------|-----------------------|-----------------------|------------------------------|-----------------------|-----------------------|
| | 1,000 Short tons, raw value | | | 1,000 Metric tons, raw value | | |
| Beginning stocks | 1,810 | 1,815 | 2,054 | 1,642 | 1,647 | 1,863 |
| Total production | 8,656 | 8,989 | 9,313 | 7,853 | 8,155 | 8,449 |
| Beet sugar | 4,893 | 5,119 | 5,371 | 4,439 | 4,644 | 4,872 |
| Cane sugar | 3,763 | 3,870 | 3,942 | 3,414 | 3,511 | 3,576 |
| Florida | 1,981 | 2,173 | 2,142 | 1,797 | 1,971 | 1,943 |
| Louisiana | 1,513 | 1,428 | 1,612 | 1,372 | 1,296 | 1,462 |
| Texas | 123 | 116 | 142 | 112 | 106 | 129 |
| Hawaii | 146 | 152 | 46 | 132 | 138 | 42 |
| Total imports | 3,553 | 3,341 | 2,694 | 3,223 | 3,031 | 2,444 |
| Tariff-rate quota imports | 1,536 | 1,620 | 1,532 | 1,393 | 1,469 | 1,390 |
| Other program imports | 471 | 396 | 175 | 427 | 359 | 159 |
| Non-program imports | 1,546 | 1,325 | 987 | 1,403 | 1,202 | 896 |
| Mexico | 1,532 | 1,309 | 972 | 1,389 | 1,187 | 882 |
| Total supply | 14,019 | 14,145 | 14,061 | 12,718 | 12,832 | 12,756 |
| Total exports | 185 | 74 | 25 | 168 | 67 | 23 |
| Miscellaneous | 0 | -33 | 0 | 0 | -30 | 0 |
| Deliveries for domestic use | 12,019 | 12,051 | 12,155 | 10,903 | 10,932 | 11,027 |
| Transfer to sugar-containing products for exports under re-export program | 103 | 148 | 120 | 93 | 134 | 109 |
| Transfer to polyhydric alcohol, feed, other alcohol | 28 | 22 | 35 | 25 | 20 | 32 |
| Commodity Credit Corporation (CCC) sale for ethanol, other | 0 | 0 | 0 | 0 | 0 | 0 |
| Deliveries for domestic food and beverage use | 11,888 | 11,881 | 12,000 | 10,785 | 10,778 | 10,886 |
| Total Use | 12,204 | 12,091 | 12,180 | 11,071 | 10,969 | 11,050 |
| Ending stocks | 1,815 | 2,054 | 1,881 | 1,647 | 1,863 | 1,706 |
| Private | 1,815 | 2,054 | 1,881 | 1,647 | 1,863 | 1,706 |
| Commodity Credit Corporation (CCC) | 0 | 0 | 0 | 0 | 0 | 0 |
| Stocks-to-use ratio | 14.87 | 16.99 | 15.44 | 14.87 | 16.99 | 15.44 |

Source: U.S. Dept. of Agriculture, Economic Research Service, Sugar and Sweetener Outlook.

Projected U.S. sugar production for 2016/17 is 9.313 million STRV, a 29,000-STRV decrease from the previous month's projection. The current projection would be a fiscal year production record if realized.

Beet sugar production is projected to total 5.371 million STRV, unchanged from the previous month. The National Agricultural Statistics Service (NASS) updated sugarbeet production in the January *Crop Production Summary 2016* to 36.881 million short tons, an increase of 268,000 tons based primarily on higher yields than previously estimated. The 2016/17 sugarbeet production is record-large, surpassing the previous year's record level of 35.359 million short tons. The shrink rate for 2016/17—or the amount of harvested beets not sliced due to weight loss or spoilage during the sugarbeet storage process—is currently projected to be 5.8 percent, in line with longer-run averages. After a warm November in several sugarbeet

producing regions, a cold snap in December was well-timed for storing beets in nonventilated piles. There was a brief period during late December in the Red River Valley where temperatures rose above freezing. Initial reports from the region indicate that it is too early to see if that had an impact on the conditions of the stored beets. Weather during the upcoming winter months will continue to be an important factor influencing the amount and quality of the beets being sliced for the current campaign.

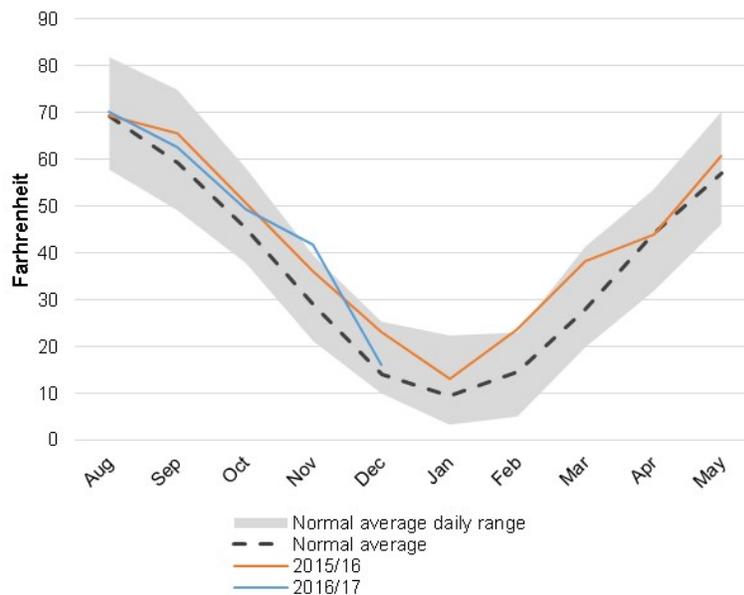
Table 2: Beet sugar production projection calculation, 2016/17

| | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2016/17 |
|--|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| | | | | | | | | December | January |
| Sugarbeet production (1,000 short tons) 1/ | 29,783 | 32,034 | 28,896 | 35,224 | 32,789 | 31,285 | 35,359 | 36,613 | 36,881 |
| Sugarbeet shrink 2/ | 5.7% | 5.9% | 5.9% | 4.8% | 6.8% | 5.4% | 6.5% | 5.8% | 5.8% |
| Sugarbeets sliced (1,000 short tons) | 28,097 | 30,137 | 27,184 | 33,532 | 30,545 | 29,595 | 33,066 | 34,489 | 34,742 |
| Sugar extraction rate from slice | 14.3% | 15.4% | 15.0% | 15.3% | 14.3% | 14.6% | 14.6% | 14.8% | 14.7% |
| Sugar from beets slice (1,000 STRV) | 4,023 | 4,631 | 4,086 | 5,142 | 4,325 | 4,325 | 4,820 | 5,101 | 5,101 |
| Sugar from molassees (1,000 STRV) 2/ | 325 | 357 | 401 | 327 | 324 | 341 | 362 | 353 | 353 |
| Crop year sugar production (1,000 STRV) 3/ | 4,348 | 4,987 | 4,487 | 5,469 | 4,648 | 4,667 | 5,183 | 5,454 | 5,454 |
| August-September sugar production (1,000 STRV) | 396 | 623 | 294 | 708 | 315 | 461 | 688 | 606 | 606 |
| August-September sugar production forecast (1,000 STRV) 4/ | -- | -- | -- | -- | -- | -- | 606 | 483 | 483 |
| Sugar from imported beets (1,000 STRV) 5/ | -- | -- | -- | -- | -- | -- | -- | 40 | 40 |
| Fiscal year sugar production (1,000 STRV) | 4,575 | 4,659 | 4,900 | 5,076 | 4,794 | 4,893 | 5,119 | 5,371 | 5,371 |

Notes: 1/ National Agricultural Statistics Service, U.S. Dept. of Agriculture. 2/Projections based on processor forecasts published by Farm Service Agency. 3/ August-July basis. 4/ Based on 2016/17 production. 5/ Sugar from imported beets split out for projections only. They are incorporated into total production in historical data.

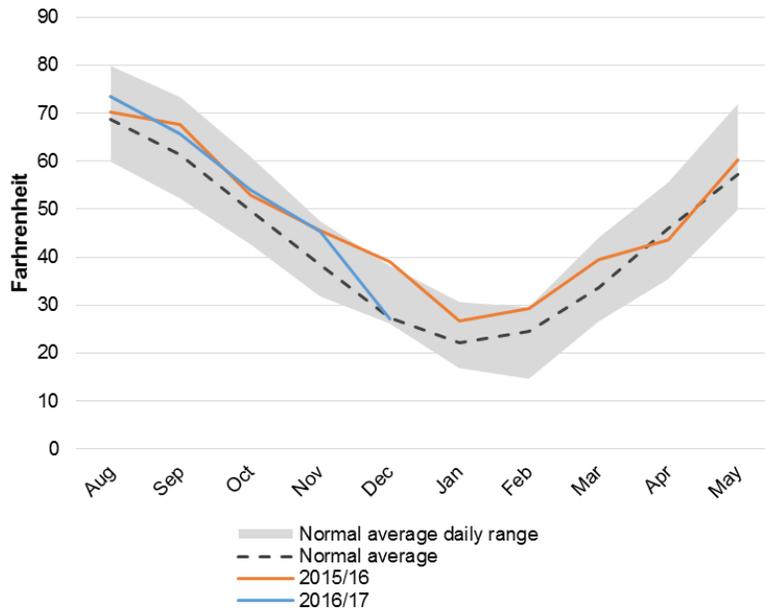
Source: Economic Research Service, U.S. Dept. of Agriculture; World Agricultural Outlook Board, U.S. Dept. of Agriculture.

Figure 1
Fargo, ND temperatures, monthly averages, 2015/16-2016/17 and normal



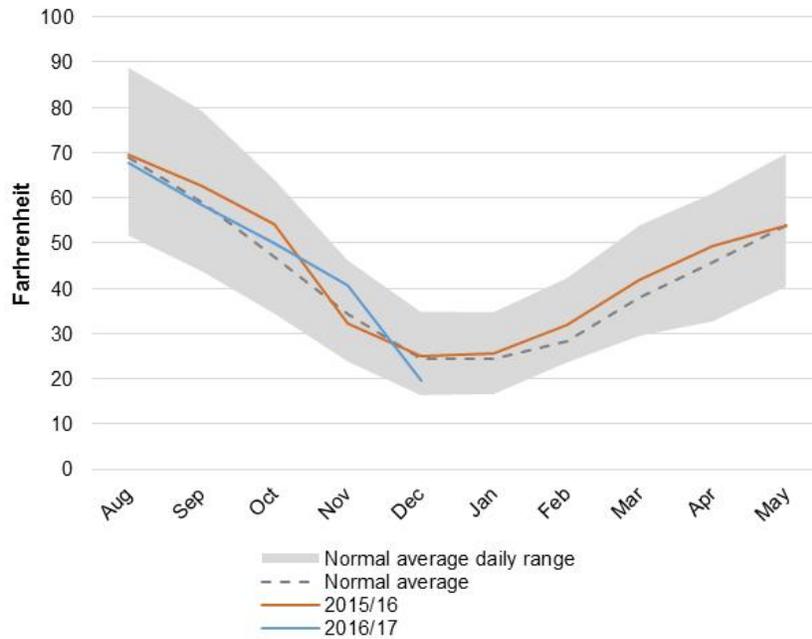
Source: U.S. Department of Agriculture, Office of the Chief Economist.

Figure 2
Saginaw, MI temperatures, monthly averages, 2015/16-2016/17 and normal



Source: U.S. Department of Agriculture, Office of the Chief Economist.

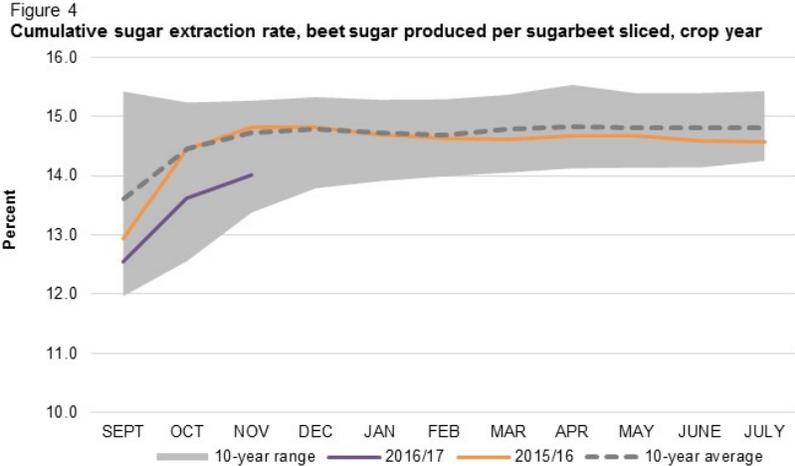
Figure 3
Pocatello, ID temperatures, monthly averages, 2015/16-2016/17 and normal



Source: U.S. Department of Agriculture, Office of the Chief Economist.

The higher estimate for sugarbeet production and increased slice is offset by a projected reduction in sugar extracted from sliced sugarbeets. Although data has only been reported through November for 2016/17, sugar production from this crop has been low relative to the amount of beets that have been sliced. Early-season sliced sugarbeet sucrose extraction rates are often lower than the ultimate season average and can be more variable than beets sliced during the subsequent months. Through November, extraction rates

have been significantly lower than the previous year and the 10-year average rates. As the year progresses, however, cumulative extraction rates fall into a much narrower range. Industry reports indicate that the sugarbeet crop's sugar content is not as high as the previous year's crop, although reports also do not currently substantiate an extraction rate at or near the historical lows. Additional months of reporting are needed before a clear trajectory of the extraction rate can be confirmed. The current beet sugar projection includes an extraction rate of 14.68 percent, below the 10-year average of 14.81 percent, but higher than the 14.57 percent recorded for the previous year's crop.



Source: U.S. Dept. of Agriculture, Economic Research Service and Farm Service Agency.

Cane sugar production is projected to be 3.942 million STRV in 2016/17, a 29,000-STRV decline from the previous month. Louisiana production is projected to be 1.612 million STRV, a 32,000-STRV decrease from the previous month based on industry reports as the harvest campaign comes to a conclusion in the State. Production in Texas is raised a relatively small 2,000 STRV to 142,000 STRV, also based on industry reports. Production in Hawaii and Florida remain unchanged at 46,000 STRV and 2.142 million STRV, respectively.

Total U.S. imports are projected to be 2.694 million STRV in 2016/17, a 2,000-STRV decline from the December projection. Projected imports from quota programs are reduced 2,000 STRV, to total 1.532 million STRV. The decrease is due to imports from Free-Trade Agreement countries under the 2016 calendar year quotas that were not filled during the calendar year. Nonprogram imports remain unchanged at 1.162 million STRV, including 972,000 STRV of imports from Mexico, primarily based on the Export Limit published by the U.S. Department of Commerce in December (USDOC).

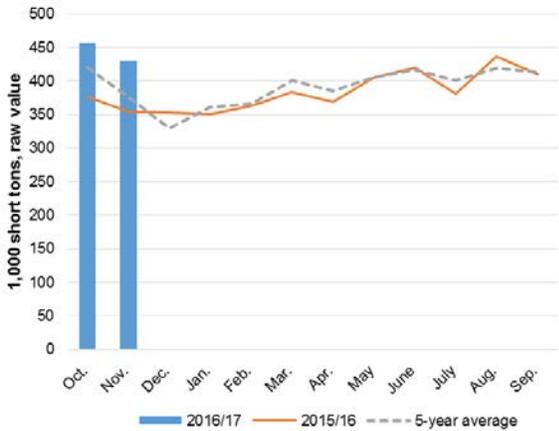
Projected domestic deliveries in 2016/17 expected to increase at steady pace from previous year

Projected domestic deliveries for 2016/17 are 12.155 million STRV, unchanged from the previous month's projection. Domestic deliveries for food consumption are also unchanged, projected at 12.000 million STRV. This would be a 1.0-percent increase from the previous year.

Through November, domestic deliveries are 17.1 percent above a year ago, totaling 2.180 million STRV. The increase is primarily due to the 21.3-percent year-over-year increase in beet sugar deliveries. This is partially due to the relatively low level of deliveries in 2015/16, particularly in first few months of the fiscal year. Monthly deliveries in both October and November were also larger than the 5-year average,

however. This is likely the result of relatively large inventories of beet sugar from 2015/16, a price discount for beet sugar over cane sugar, and market uncertainty surrounding shipments from Mexico due to a USDOC review of the current suspension agreements with Mexico. Through November, cane sugar deliveries are 0.2 percent below the previous year but remain above historical averages. Cane sugar deliveries in the early part of the fiscal year were likely constrained by relatively small inventories carried over from 2015/16. This should be at least partially alleviated as the record cane sugar production projected for 2016/17 comes into the market, although cane sugar supplies are expected to remain relatively tight by historical standards.

Figure 5
Beet sugar deliveries for human consumption, monthly, 2008/09 to 2016/17



Source: U.S. Department of Agriculture, Farm Service Agency.

Figure 6
Cane sugar deliveries for human consumption, monthly, 2008/09 to 2016/17



Source: U.S. Department of Agriculture, Farm Service Agency.

Domestic deliveries for other uses remain unchanged at 155,000 STRV. Exports are projected to be 25,000 STRV in 2016/17, also unchanged.

U.S. ending stocks are projected to be 1.881 million STRV, a 31,000-STRV decline from the December projection, reflecting the reduced supply outlook.

Mexico sugarcane harvest in 2016/17 projected to increase from previous year

Mexico sugar production for 2016/17 is projected to be 6.371 million metric tons, actual value (MT), unchanged from the previous month and matching the initial crop estimate by Mexico’s *Comité Nacional para el Desarrollo Sustentable de la Caña de Azúcar* (Conadesuca).

Table 3 -- Mexico sugar supply and use, 2014/15 - 2015/16 and projected 2016/17, January 2017.

| Items | 2014/15 | 2015/16 (estimate) | 2016/17 (forecast) |
|--|----------------------------------|--------------------|--------------------|
| | 1,000 metric tons, actual weight | | |
| Beginning stocks | 831 | 811 | 1,037 |
| Production | 5,985 | 6,117 | 6,371 |
| Imports | 128 | 83 | 60 |
| Imports for consumption | 8 | 17 | 10 |
| Imports for sugar-containing product exports, IMMEX 1/ | 121 | 66 | 50 |
| Total supply | 6,944 | 7,011 | 7,468 |
| Disappearance | | | |
| Human consumption | 4,408 | 4,387 | 4,389 |
| For sugar-containing product exports (IMMEX) | 337 | 330 | 330 |
| Statistical adjustment | -54 | 50 | 50 |
| Total | 4,691 | 4,767 | 4,769 |
| Exports | 1,442 | 1,207 | 1,470 |
| Exports to the United States & Puerto Rico | 1,311 | 1,120 | 832 |
| Exports to other countries | 131 | 86 | 638 |
| Total use | 6,134 | 5,974 | 6,238 |
| Ending stocks | 811 | 1,037 | 1,229 |
| | 1,000 metric tons, raw value | | |
| Beginning stocks | 881 | 859 | 1,099 |
| Production | 6,344 | 6,484 | 6,753 |
| Imports | 136 | 88 | 64 |
| Imports for consumption | 8 | 18 | 11 |
| Imports for sugar-containing product exports (IMMEX) | 128 | 70 | 53 |
| Total supply | 7,361 | 7,431 | 7,916 |
| Disappearance | | | |
| Human consumption | 4,673 | 4,650 | 4,652 |
| For sugar-containing product exports (IMMEX) | 357 | 350 | 350 |
| Statistical adjustment | -57 | 53 | 53 |
| Total | 4,973 | 5,053 | 5,055 |
| Exports | 1,529 | 1,279 | 1,558 |
| Exports to the United States & Puerto Rico | 1,389 | 1,187 | 882 |
| Exports to other countries | 139 | 92 | 676 |
| Total use | 6,502 | 6,332 | 6,613 |
| Ending stocks | 859 | 1,099 | 1,303 |
| Stocks-to-human consumption (percent) | 18.4 | 23.6 | 28.0 |
| Stocks-to-use (percent) | 13.2 | 17.4 | 19.7 |
| High fructose corn syrup (HFCS) consumption (dry weight) | 1,444 | 1,482 | 1,459 |

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

Source: USDA, *World Agricultural Supply and Demand Estimates* and Economic Research Service, *Sugar and Sweeteners Outlook*; Conadesuca.

Through January 7, sugar mills in Mexico have produced 11.559 million metric tons of sugarcane. This is 4.3 percent below the previous year and 13.5 percent behind the pace from Conadesuca's initial estimate. It is still relatively early in the Mexico sugarcane harvest campaign, however, as the majority of cane is harvested after the New Year holiday. Sugar recovery rates have lagged behind the previous year's pace as well. Recent-year recovery rate patterns have shown that early-season recovery rates are not indicative of the final average rates; recovery rates eventually converge to within a much narrower range than initial reports. Weather and harvest conditions over the next several weeks will likely be a key determinant for how the harvest campaign progresses relative to initial estimates of the crop.

Figure 7
Mexican sugarcane production, by week of harvest, 2012/13-2016/17

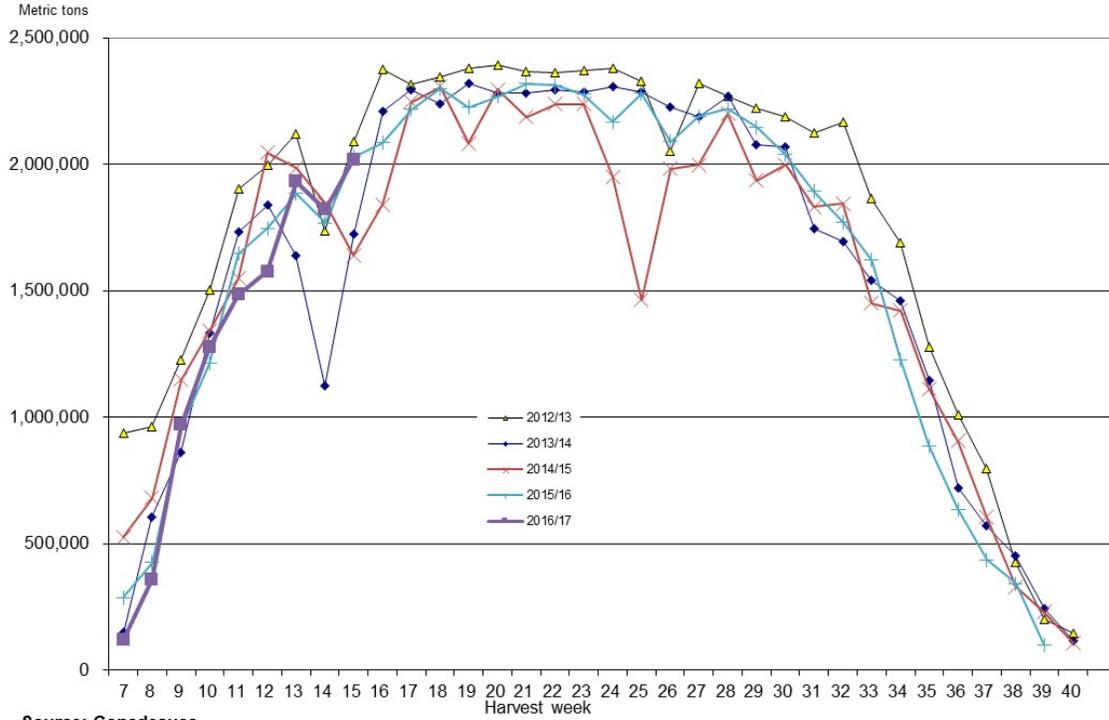
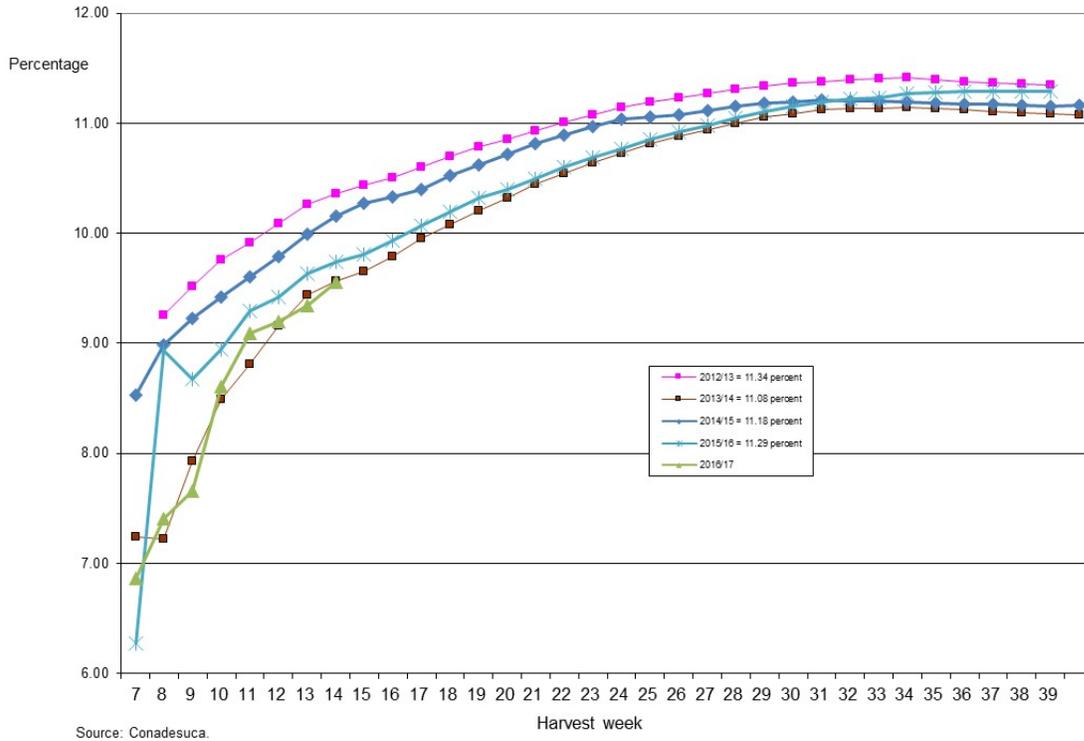


Figure 8
Intra-seasonal, cumulative sugar recovery rates in Mexico, recent crop years



Projected Mexico sugar imports for 2016/17 are 60,000 MT, a 50,000-MT increase from the December projection. The increase takes into account imports from non-U.S. sources. Imports for 2015/16 are estimated at 83,000 MT, a 13,000-MT increase from the previous estimate based on official trade statistics from the Government of Mexico for the 2015/16 fiscal year. While still relatively minor in comparison with Mexico's total sugar supplies, Mexico reported increased imports from several countries, most significantly from Brazil, that partially offset the decline in imports from the United States. In February 2016, Mexico changed its regulations regarding the IMMEX program that disqualified U.S.-sourced sugar that had benefited from the United States' sugar re-export program. However, it is unclear how the increased imports from other countries are being utilized, as data is not available for IMMEX use for sugar imports, but only for domestically sourced sugar. The increase in projected imports for 2016/17 in the January WASDE is based on these shipments continuing in the current year. It is still unclear, however, how these imports will be utilized. As a result, their projected use is captured in the miscellaneous, statistical adjustment category in the balance table.

Table 4 -- Mexico sugar imports, October to September fiscal year, 2010/11 to 2015/16

| Country | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
|-----------------|----------------------------------|---------|---------|---------|---------|---------|
| | 1,000 metric tons, actual weight | | | | | |
| United States | 164 | 177 | 157 | 124 | 99 | 30 |
| Brazil | 14 | 55 | 1 | 3 | 13 | 31 |
| Guatemala | 43 | 103 | 16 | 2 | 11 | 12 |
| Canada | 18 | 17 | 15 | 1 | 4 | 10 |
| Other countries | 50 | 86 | 1 | 1 | 0 | 0 |
| Total imports | 289 | 438 | 190 | 131 | 128 | 83 |

Source: Global Trade Atlas, GTIS.

Domestic deliveries of sugar in Mexico for 2016/17 are projected to be 4.769 million MT, a 50,000-MT increase from the previous month. Deliveries for human consumption are projected to be 4.389 million MT, unchanged from the previous month. Deliveries to the IMMEX program are projected to be 330,000 MT, also unchanged from the previous month and reflecting that only domestic sugar will be delivered to the program. Miscellaneous deliveries are projected to be 50,000 MT, as indicated above regarding expected imports that are not currently incorporated into Conadesuca reporting.

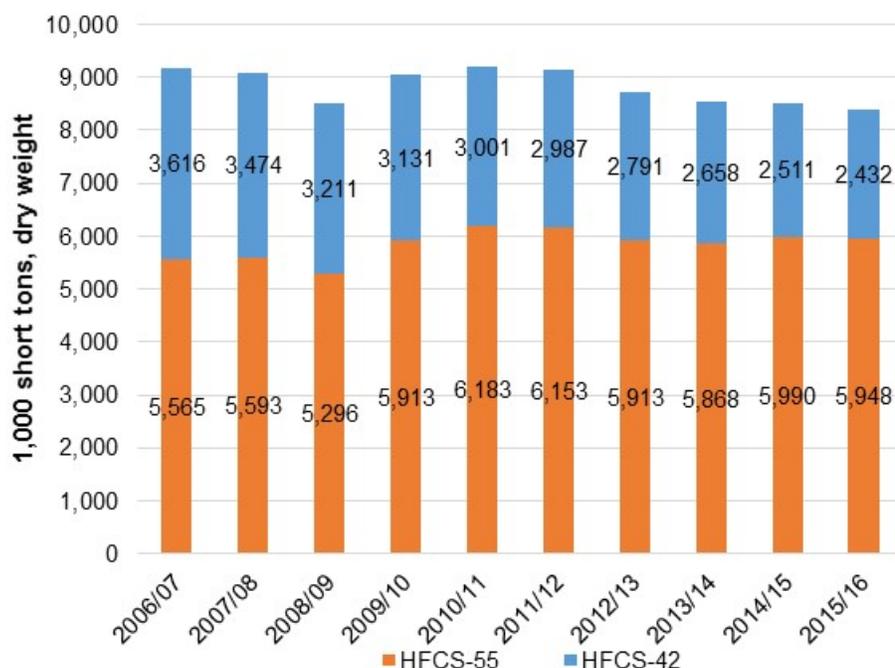
Total Mexico sugar exports are projected to total 1.470 million MT, unchanged from the previous month's projection. Exports to the United States are projected to be 832,000 MT, in line with the Export Limit published by the USDOC, in accordance with the suspension agreements signed between the United States and the Government of Mexico in December 2014. Exports also include a partial shipment that entered at the end of 2015/16 under the 2015/16 Export Limit period but was entered into Customs after the October 1 start of the 2016/17 fiscal year. Exports to other countries are projected to be 637,000 MT, also unchanged from December projections. The projection is based on Mexico's ending stocks being sufficient to satisfy 2.5 months of expected domestic deliveries for IMMEX and domestic consumption, as well as satisfying 30 percent of the expected 2017/18 U.S. Needs that Mexico can ship between October 1 and December 31 of that year. The remaining available supplies are projected to be exported to other countries.

Ending stocks for 2016/17 are projected to be 1.229 million MT, unchanged from the previous month's projection.

Special Article: U.S. High Fructose Corn Syrup Production and Domestic Deliveries Continue To Decline in 2015/16

U.S. high fructose corn syrup (HFCS) production in 2015/16 totaled 8.380 million short tons, dry weight, a 1.4-percent decline from the previous year. The decline continues the downward trend that has persisted since HFCS production reached a peak of 9.477 million tons in 1999/2000. Production declines have accelerated since 2011/12 as domestic demand has fallen and the corn wet-milling industry restructured its production capacities, including the closure of the Cargill wet mill in Memphis in January 2015 due to underutilization.

Figure 9
U.S. high fructose corn syrup domestic production, fiscal year, 2006/07 to 2015/16



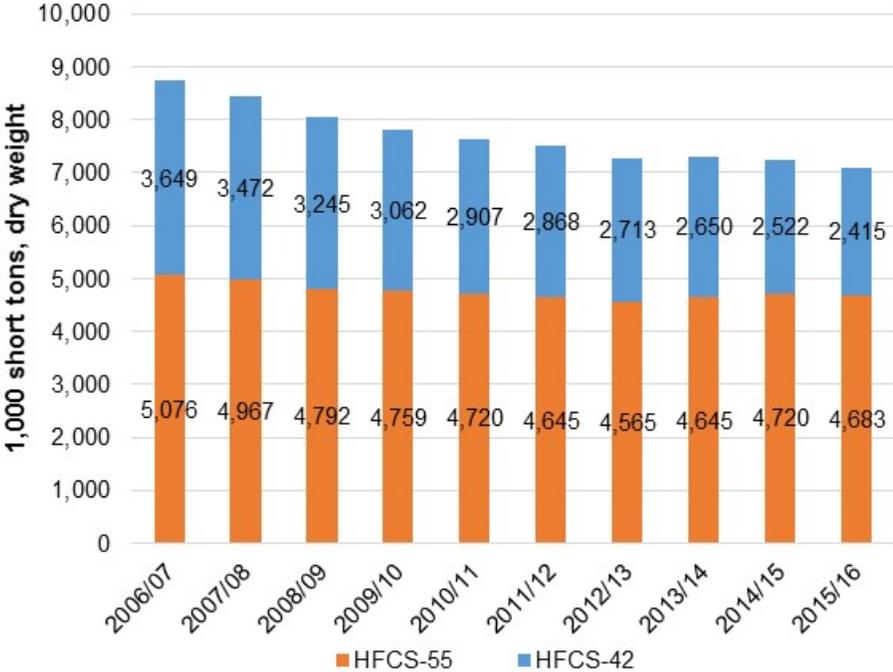
Source: U.S. Department of Agriculture, Economic Research Service.

Most of the annual decline in 2015/16 is due to lower production of HFCS-42— a sweetener predominantly used in food manufacturing and processing—declining 3.2 percent to 2.432 million tons. Production of HFCS-55—which accounted for more than 70 percent of all HFCS production and is used primarily in beverage production—declined 0.7 percent to 5.948 million tons. Overall, HFCS-55 production has been much more stable over the past 10 years compared with HFCS-42. Between 2006/07 to 2015/16, HFCS-42 production declined an average of 4.4 percent per year. In contrast, HFCS-55 production actually increased slightly at 0.7 percent per year over the same period.

Domestic deliveries of total HFCS declined 2.0 percent in 2015/16, to 7.097 million tons. As with production trends over the past 10 years, HFCS deliveries have been steadily declining since 2006/07. Deliveries have been declining at a greater rate than production, dropping 2.3 percent per year compared with 2006/07 levels. HFCS-55 deliveries declined 0.9 percent to 4.683 million tons in 2015/16, although

they remain above the recent minimum reached in 2012/13. After steadily declining since 2001/02, HFCS-55 deliveries have stabilized over the past 5 years. Domestic deliveries of HFCS-42, however, have declined on an annual basis every year since 2006/07 at a constant rate. HFCS-42 deliveries fell to 2.415 million tons in 2015/16, a 4.3-percent decrease compared with the previous year. This is consistent with the annual rate of decline of 4.6 percent per year since 2006/07.

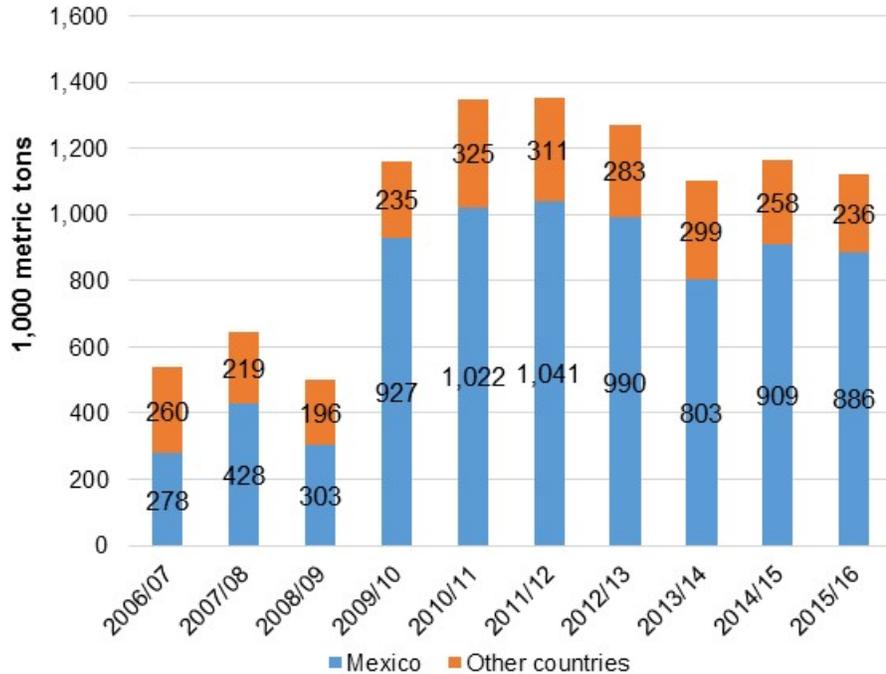
Figure 10
U.S. high fructose corn syrup domestic use, fiscal year, 2006/07 to 2015/16



Source: U.S. Department of Agriculture, Economic Research Service.

Exports of HFCS, in particular exports to Mexico, became an increasingly important component of the U.S. market, due to the gap between production and domestic deliveries. Exports increased substantially in 2009/10, shortly after the implementation of NAFTA provisions for sweetener markets between the United States and Mexico and the increase in imports of sugar from Mexico in the United States. After an initial period of growth, exports to Mexico have moderated in recent years, as has HFCS domestic consumption in Mexico. Exports to Mexico in 2015/16 fell 2.5 percent compared with the previous year, and were 14.9 percent below the largest year in 2011/12. HFCS shipments to Mexico remain a substantial portion of the U.S. deliveries market, but the growth in the market has not been as strong as was previously anticipated, due in part to availability of domestic supplies of sugar in Mexico and consumer preferences in sweeteners—particularly for beverages.

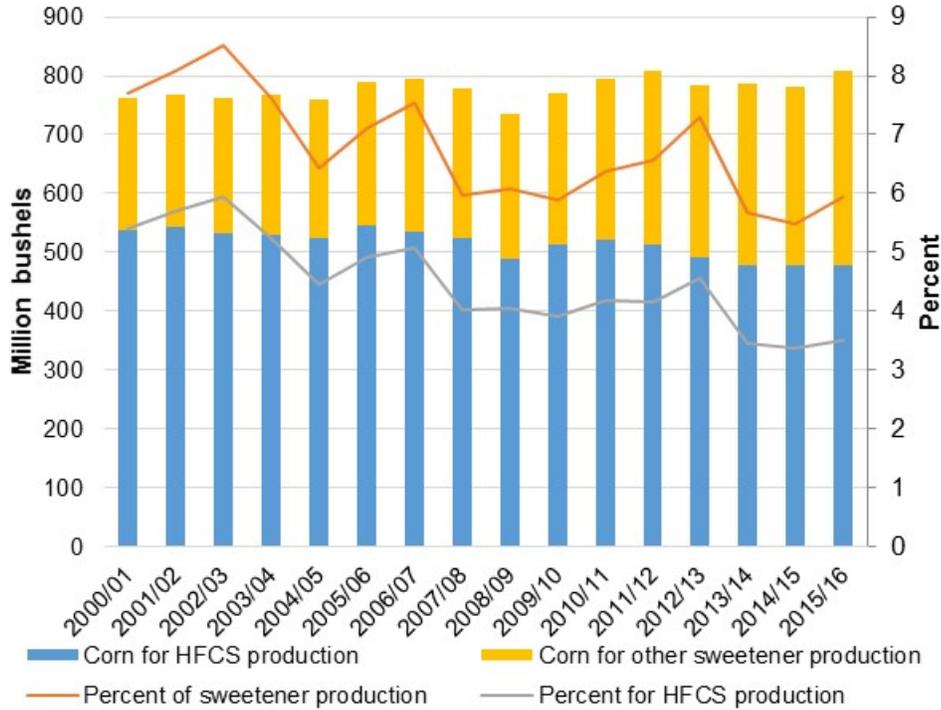
Figure 11
U.S. high fructose corn syrup exports, fiscal year, 2006/07 to 2015/16



Source: U.S. Census Bureau.

Relative to the total U.S. corn crop, the share of corn used for HFCS production has continued to decline. In the 2015/16 corn crop year—which runs from September to August—HFCS production accounted for 478 million bushels, nearly unchanged from the previous year’s total of 479 million bushels. However, because of lower corn production in 2015/16, the share of the total crop accounted for by HFCS increased slightly from 3.4 percent in 2014/15 to 3.5 percent in 2015/16. Over the longer run, however, the percentage of the corn crop accounted for by HFCS production has been trending downward since 2002/03 when it was 5.9 percent. Part of the decline in corn production used for HFCS production has been offset by increased production in other corn sweeteners, such as glucose and dextrose. Even taking into account other corn sweeteners, however, the share of the corn crop for all corn sweeteners has been declining. The absolute number of bushels going toward corn sweetener has been relatively stable, but as corn production has been increasing the sweetener share has decreased, partially to accommodate the increase in corn-based ethanol production over the past decade and the subsequent expansion of dry mill plants that do not produce sweetener products. In contrast, the wet-milling sector—which is more capital-intensive but can produce a wider range of products from corn—has stagnated and has even seen plants shut down in recent years.

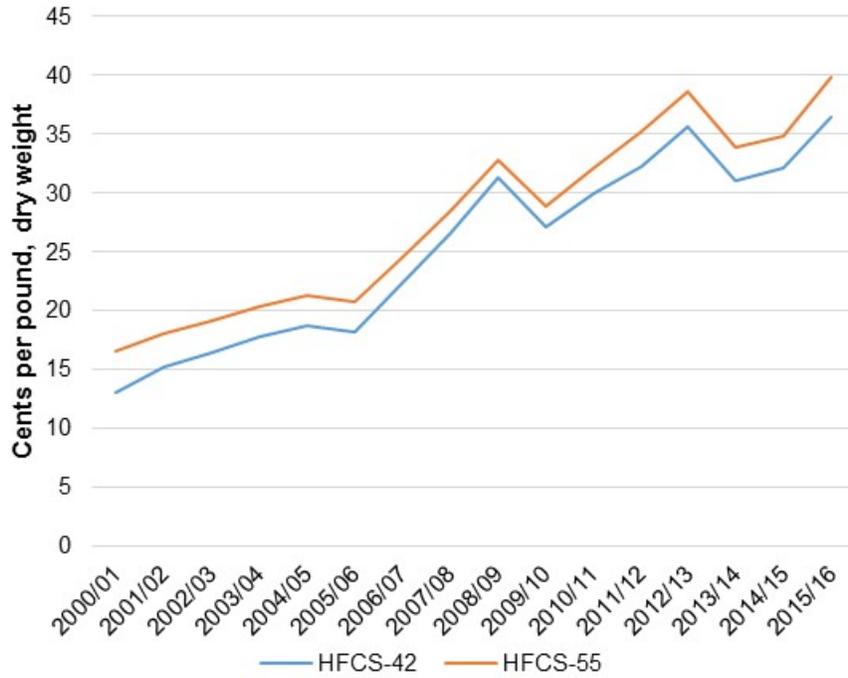
Figure 12
**U.S. corn production allocated to corn sweetener use, crop year 1/
 2000/01 to 2015/16**



1/ Based on a September to August corn crop year.
 Source: U.S. Department of Agriculture, Economic Research Service.

HFCS prices in 2015/16 did increase compared with the previous year, partially due to the restructuring of the wet-mill sector that eliminated some of the underutilized capacity in the market. Prices averaged 39.77 cents per pound, dry weight, on the spot market for HFCS-55, an increase of 14.3 percent from the previous year. HFCS-42 spot prices increased 13.5 percent to 36.45 cents. This continues the recovery from the decline in prices that occurred in 2013/14. Prices remain well above the price levels seen in the early 2000's, however, as corn prices and agricultural commodity prices in general have increased over the same period. Indications thus far through 2016/17 are that prices for HFCS are expected to increase, as 2017 calendar year contract prices are reported to be higher than in 2016 and the first weekly spot prices for 2017 in *Milling and Baking News* are higher than prices reported in 2016.

Figure 13
U.S. high fructose corn syrup prices, fiscal year, 1999/2000 to 2015/16



Source: U.S. Department of Agriculture, Economic Research Service.

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Tables from the *Sugar and Sweeteners Yearbook* are available in the Sugar and Sweeteners Topics at <http://www.ers.usda.gov/topics/sugar/>. They contain the latest data and historical information on the production, use, prices, imports, and exports of sugar and sweeteners.

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Sugar and Sweeteners Outlook <http://www.ers.usda.gov/Publications/SSS/WASDE> <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documented=1194>
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