



Sugar and Sweeteners Outlook

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U.S. Sugar May 2011

The Sugar and Sweetener Team of the Economic Research Service (ERS) makes calendar year estimates of total and per capita sweetener deliveries that are available for food and beverage consumption by U.S. consumers. U.S. sweetener deliveries for 2010 were 131.9 pounds per capita, up slightly from 2009, but down 19.4 pounds from the per capita high of 151.3 pounds in 1999. Per capita sugar consumption in 2010 was 66.0 pounds, its highest level since 1999, while corn sweetener per capita consumption at 64.5 pounds was at its lowest level since 1986. For the first time since 1985, total sugar available for consumption exceeded total corn sweeteners (the sum of high fructose corn syrup, glucose syrup, and dextrose).

On May 11, 2011, the U.S. Department of Agriculture (USDA) released its latest supply and use estimates for fiscal year (FY) 2011 and the first projections for FY 2012 in the *World Agricultural Supply and Demand Estimates* (WASDE) report. Projected U.S. sugar supply for FY 2012 is down 5 percent from FY 2011. Lower imports more than offset higher beginning stocks and production. Beet sugar production is unchanged and reflects trend yields, while cane sugar production increases, mainly due to a rebound in Florida. Imports under the tariff rate quota (TRQ) reflect the minimum U.S. commitments to the World Trade Organization and several Free Trade Agreements to import raw and refined sugar, adjusted for expected shortfall. Imports from Mexico are sharply lower due to an assumed leveling off of high fructose corn syrup (HFCS) consumption in Mexico and lack of imports of sugar for consumption into Mexico. Deliveries for domestic food and beverage use for FY 2012 are projected at 11.125 million STRV, an increase of 125,000 STRV over estimated deliveries in FY 2011. Ending stocks for FY 2012 are projected at 885,059 STRV, implying an ending-year stocks-to-use ratio of 7.7 percent and tight market conditions for the U.S. sugar market.

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Mexico's 2011/12 sugar supply is down 3 percent due to lower beginning stocks and lower imports. Sugar production is forecast to increase, but not enough to offset lower stocks and imports. FY 2012 sugar imports are mostly from the United States for use in Mexico's product re-export program (IMMEX). Domestic sugar consumption is up, reflecting flat demand for corn-based sweeteners in the soft drinks sector, a population increase, and a small expansion of per capita sweetener consumption. Ending-year stocks are projected at 22 percent of Mexican sugar consumption, a percentage considered optimal in Mexico to meet consumption needs at the end of the year. Sugar exports are expected to be lower than in FY 2011 to meet the stocks objective.

U.S. Sugar

On May 11, 2011, the U.S. Department of Agriculture (USDA) released its latest supply and use estimates for fiscal year (FY) 2011 and first projections for FY 2012 in the *World Agricultural Supply and Demand Estimates* (WASDE) report.

FY 2012 Beet Sugar Production

There is much uncertainty in forecasting this crop year's sugarbeet production. As detailed below, USDA's Interagency Commodity Estimates Committee (ICEC) for sugar bases its analysis on planting intentions published by the National Agricultural Statistics Service (NASS) at the end of March, assumes normal weather conditions, and uses statistically verifiable trends in adjusting expected yields and sucrose levels in the major sugarbeet producing regions. However, planting of sugarbeets for the 2011/12 crop year in major producing areas has been slowed by extremely wet conditions (rain and snowmelt) and cool temperatures through the first week of May. Ground conditions, especially in the Red River Valley, have proven too soggy to permit timely planting.

Figure 1 shows planting progress in the four largest sugarbeet producing States of Minnesota, North Dakota, Idaho, and Michigan relative to last year and the average for 2006/07 through 2010/11. Planting progress lags significantly behind last year (33 percent against 99 percent) and the average (33 percent against 77 percent). As of May 8, only 17 percent of the crop has been planted in Minnesota and only 14 percent in North Dakota. The largest processor in the Red River Valley is permitting growers to expand area to compensate for possible yield and sucrose losses.

At this time, it is difficult to make ad hoc adjustments for the USDA forecast. The forecast, as usual, relies on USDA data and established forecasting procedures. USDA adjustments to sugar production forecasts are considered each month and duly reported in the WASDE.

The National Agricultural Statistics Service (NASS) forecasts sugarbeet acreage intentions for crop year 2011/12 at 1.187 million acres, an increase of only 15,700 acres, or 1.3 percent, over last year. There is little year-over-year area variation in the beetsugar growing regions: relative area growth is largest in the Great Plains (Colorado, Montana, Nebraska, Wyoming) at 4.0 percent and in the Northwest (Idaho, Oregon) at 3.1 percent. Area in the largest producing region of the Red River Valley (Minnesota, North Dakota) is up only 0.9 percent, and area in Michigan is down 1.4 percent.

In making its sugarbeet production forecast, USDA's Interagency Commodity Estimates Committee (ICEC) for sugar assumes normal sucrose levels and normal area harvested-to-planted ratios. The national sugarbeet yield is forecast at 27.2 tons per acre, just below last year's record level. Despite pre-season uncertainty regarding the planting of genetically modified organism (GMO) seed varieties, most of the crop is to be planted with GMO seed.

Table 1 shows regional detail. Relative to average sugarbeet yields of 9 to 11 years ago, yields forecast for 2011/12 are much higher: by 31 percent in the Red River Valley, 32 percent in the Great Lakes, 34 percent in the Northwest, and 27 percent in the Great Plains. Figure 2 shows the national sugarbeet yields since 1980/81 and the jump in the trend occurring almost everywhere in the 2006/07 season (yields in California were the only exception). The increase was due mainly to use of rhizomania-resistant seed varieties and use of Pancho Beta to control for Curly Top. The later widespread use of GMO seed varieties did not directly contribute to an observed increase in regional or national sugarbeet yields.

Assuming trend improvements in processing, the USDA projects national beet sugar production in crop year 2011/12 at 4.800 million STRV (rounded up from 4.780 million STRV). Figure 3 shows the direct relationship between sugarbeet yield and sugar production used for prediction. The modeled relationship holds for the 1981/82-

2010/11 period but recognizes that weather-related disturbances can affect the relationship, as occurred in 2009/10 when difficult harvest conditions affected sucrose recovery.¹

FY 2012 Cane Sugar Production

The USDA projects FY 2012 cane sugar production at 3.390 million STRV, an increase of 233,000 STRV over that of FY 2011. Because area harvested is not forecast by NASS until the end of June, current cane sugar projections assume the same area harvested for sugarcane as in the previous year. Most of the year-over-year increase is attributable to production in Florida. Severe, prolonged freezing conditions in December 2010 reduced the FY 2011 crop to 1.433 million STRV, the lowest level since FY 2006. The freeze also damaged newly planted cane, reducing the expected crop in FY 2012. Nonetheless, assuming a return to normal weather, production is forecast at 1.630 million STRV.

The USDA projects FY 2012 Louisiana cane sugar production at 1.440 million STRV, a slight increase over FY 2011. The USDA projects Texas production at 150,000 STRV, about the same as estimated for FY 2011. Prospects for production growth in Texas have been limited by dry weather conditions. Hawaiian production is forecast at 170,000 STRV, the same as estimated for FY 2011.

Trade

On April 11, 2011, the Secretary of Agriculture announced an additional in-quota quantity for the raw sugar tariff-rate quota (TRQ) for FY 2011 in the amount of 325,000 STRV (294,835 metric tons, raw value (MTRV)). This quantity is in addition to the minimum amount to which the United States is committed under the World Trade Organization (WTO) Uruguay Round Agreements. The U.S. Trade Representative (USTR) also determined reallocation of 112,631 STRV (102,177 MTRV) of the minimum amount of the original TRQ for raw cane sugar from countries that stated that they would be unable to fill previously allocated FY 2011 raw sugar TRQ quantities. In all, USTR allocated a total of 437,631 STRV (397,012 MTRV).

The total sugar TRQ for FY 2011 is estimated at 1.752 million STRV, an increase of 380,516 STRV over the April 2010 projection. TRQ shortfall is projected at 50,256 STRV. Details are shown in table 2.

In the May 2011 WASDE, the estimate for re-export imports was reduced 75,000 STRV to 300,000 STRV and the estimate for high-tier tariff imports was reduced 20,000 STRV to 20,000 STRV. The estimate of imports from Mexico was increased by 165,000 STRV to 1.514 million STRV. All these adjustments were made because of the observed pace of imports through the end of April. For imports from Mexico, the Foreign Agricultural Service (FAS) estimated that about 912,000 MTRV (1.005 million STRV) had entered into U.S. Customs territory through the end of April (the seventh month of the fiscal year). This would have represented 75 percent of imports expected in April for the entire fiscal year.

Although the raw and refined sugar TRQs for FY 2012 have not yet been announced, the USDA projects them at minimum levels implied by existing international commitments to the WTO and at the allocated levels of existing Free Trade Agreements (FTAs). The projection in the May 2011 WASDE is, therefore, at 1.259 million STRV (table 3). Projected shortfall is forecast at 140,257 STRV. Until the TRQ is announced, there is no projection for additional specialty sugar. This is mostly organic sugar, and its allocation for FY 2011 was set at 85,000 STRV in addition to the 1,825 STRV included in the minimum access quantity.

The USDA projects imports from Mexico at 980,000 STRV, a 35.3-percent reduction from the estimate for FY 2011. This assumes a leveling off of high fructose corn syrup (HFCS) consumption in Mexico at 1.750 million

¹ A closely related forecast model takes account of sucrose content and produces better statistical results. However, NASS does not release sucrose content until late into the crop year, meaning that the level for 2010/11 is not yet available.

metric tons, dry basis (the same as in FY 2011), and no imports of sugar for consumption into Mexico from third countries.

Other program sugar imports outside the sugar TRQ for FY 2012 are projected to total 350,000 STRV. Other USDA import programs include the Refined Sugar Re-export Program, the Sugar-Containing Products Program, and the Polyhydric Alcohol Program. High-tier tariff sugar imports and sugar in imported syrups are projected at 10,000 STRV. Sugar exports for FY 2012 are forecast at 200,000 STRV. Most of these exports are expected to go to Mexico, where they are used in Mexico's product re-export (IMMEX) program. Almost all such sugar-containing products are expected to be exported to the United States.

Deliveries and Ending Stocks

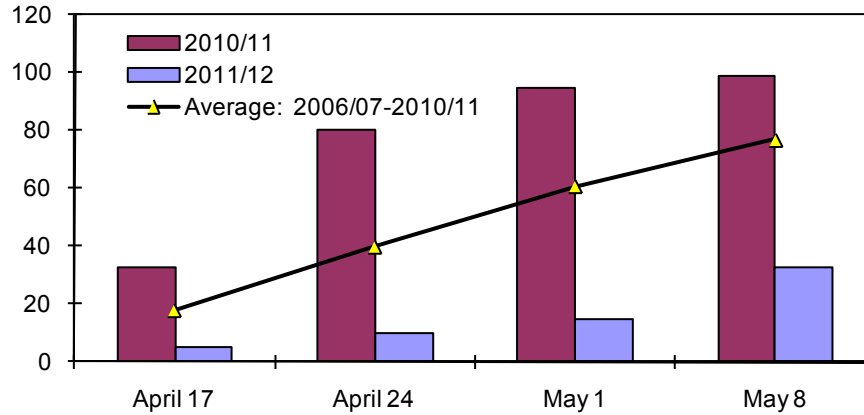
Deliveries for domestic food and beverage use for FY 2012 are projected at 11.125 million STRV, an increase of 125,000 STRV over estimated deliveries in FY 2011. Table 4 shows details of a model maintained by the Sugar and Sweetener Team of the Economic Research Service (ERS). The ERS model includes annual trend growth coefficients and seasonal adjustment coefficients for equations representing total deliveries for human consumption, deliveries from beet processors, and deliveries from cane sugar refiners. To meet expected demand, the model indicates direct consumption sugar imports of over a million tons. Most of this sugar would be expected to come from Mexico.

Ending stocks are the difference between total supply and total use. For FY 2011, ending stocks are estimated at 1.611 million STRV, implying an ending-year stocks-to-use ratio of 14.1 percent. The ending-year FY 2011 stocks estimate is the beginning stocks projection for FY 2012. Ending stocks for FY 2012 are projected at 885,059 STRV. The implied ending-year stocks-to-use ratio is 7.7 percent. If the additional specialty sugar share of the refined sugar TRQ were the same as in FY 2011, the FY 2012 ending-year stocks-to-use ratio would rise to only 8.4 percent. All in all, tight U.S. sugar market conditions are forecast for FY 2012.

Figure 1

**Sugarbeets planted in Idaho, Michigan, Minnesota, and North Dakota:
Comparison of 2011/12 with 2010/11 and average since 2006/07**

Percent planted



Source: USDA, NASS, *Crop Progress*.

Table 1--Elements of Interagency Commodity Estimates Committee 2011/12 beet sugar forecast, May 2011

Region 1/	S ugarbeets				B eet sugar	
	Area planted (1,000 acres)	Area harvested (1,000 acres)	Yield (Ton per acre)	Production (1,000 Tons)	Yield (Short tons, raw value per acre)	Production (1,000 short tons, raw value (STRV))
Great Lakes	145.0	143.8	25.6	3,674.0	---	---
Red River Valley	672.0	643.9	25.5	16,399.8	---	---
Great Plains	158.1	148.4	26.3	3,899.7	---	---
Northwest	187.0	183.0	33.5	6,138.1	---	---
Southwest	25.0	24.8	39.5	979.0	---	---
United States	1,187.1	1,143.7	27.2	31,090.6	4.18	4,780 2/

1/ Regions in 2011/12 -- Great Lakes: Michigan; Red River Valley: Minnesota, North Dakota; Great Plains: Colorado, Montana, Nebraska, Wyoming; Northwest: Idaho, Oregon; Southwest: California.

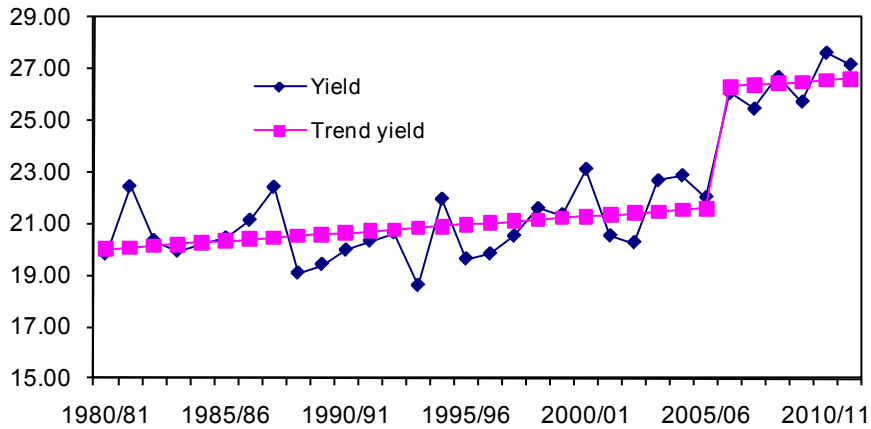
2/ Rounded up to 4,800 thousand STRV in the May 2011 *WASDE*.

Source: USDA, Interagency Commodity Estimates Committee for sugar, May 2011.

Figure 2

U.S. sugarbeet yield trend, 1980/81-2011/12

Tons per acre

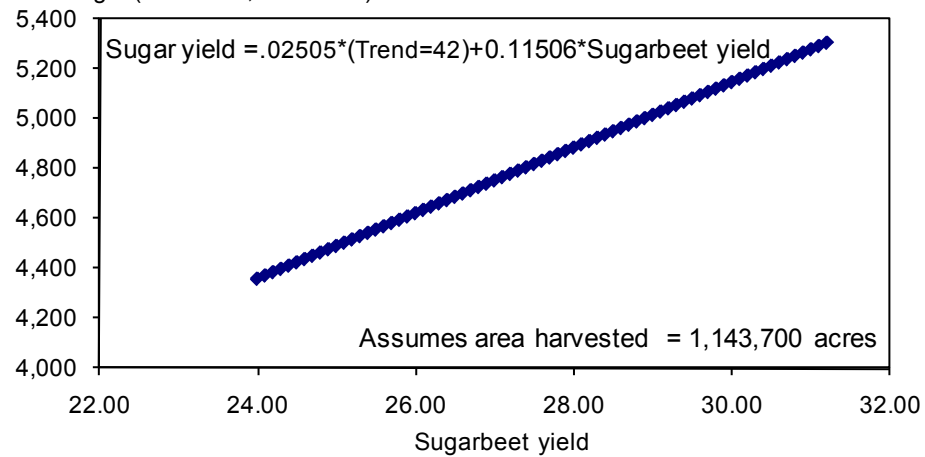


Source: USDA, Economic Research Service, Sugar and Sweetener Team.

Figure 3

Relationship between sugarbeet yield and projected beet sugar production for 2011/12

Beet sugar (short tons, raw value)



Source: USDA, ERS, MTED, Sugar and Sweetener Team.

Table 2--USDA estimate of sugar imports in FY 2011

	Metric tons, raw value	Short tons, raw value
Raw sugar TRQ	1,412,030	1,556,497
Less shortfall attributable to Mexico 1/	0	0
Less other shortfall	-42,638	-47,000
Plus FY 2010 TRQ entries in October 2010	32,971	36,344
Less FY 2011 TRQ entries in September 2010	-37,007	-40,793
Total raw sugar TRQ	1,365,356	1,505,048
Refined sugar TRQ		
Allocation to Canada	10,300	11,354
Allocation to Mexico	2,954	3,256
Less Mexican shortfall 1/	-2,954	-3,256
Global	7,090	7,815
Specialty		
Base	1,656	1,825
Additional	77,111	85,000
Total refined sugar TRQ	96,157	105,995
CAFTA/DR TRQ - calendar 2011	125,700	138,561
Other:		
Singapore, Bahrain, Jordan	20	22
Peru	2,000	2,205
Total estimate TRQ entries	1,589,233	1,751,829
Mexico	1,373,478	1,514,000
Re-export program imports	272,155	300,000
Sugar syrups, high-tier	18,144	20,000
Total projected imports	3,253,010	3,585,829

1/ Total entries from Mexico, quota and non-quota, reflected below.

Source: USDA, Foreign Agricultural Service.

Table 3--USDA estimate of sugar imports in FY 2012

	Metric tons, raw value	Short tons, raw value
Raw sugar TRQ	1,117,195	1,231,497
Less shortfall attributable to Mexico 1/	-7,258	-8,001
Less other shortfall	-117,027	-129,000
Total raw sugar TRQ	992,910	1,094,496
Refined sugar TRQ		
Allocation to Canada	10,300	11,354
Allocation to Mexico	2,954	3,256
Less Mexican shortfall 1/	-2,954	-3,256
Global	7,090	7,815
Specialty		
Base	1,656	1,825
Additional	0	0
Total refined sugar TRQ	19,046	20,995
CAFTA/DR TRQ - calendar 2012	128,020	141,118
Other:		
Singapore, Bahrain, Jordan	21	23
Peru	2,000	2,205
Total estimate TRQ entries	1,141,997	1,258,836
Mexico	889,041	980,000
Re-export program imports	317,518	350,000
Sugar syrups, high-tier	9,072	10,000
Total projected imports	2,357,628	2,598,836

1/ Total entries from Mexico, quota and non-quota, reflected below.

Source: USDA, Foreign Agricultural Service.

Table 4--ERS Sugar and Sweetener Team projection model of U.S. sugar deliveries for human consumption in fiscal year 2012

<u>Model coefficients</u>		Total deliveries (I)	Beet deliveries (II)	Cane deliveries (III)	Direct Cons. Imports (IV)
Constant	A	790,021	406,421	562,826	Residual = I - (II+III)
Shifter	B	-82,288	0	26,458	
Trend (value in FY 2011)	C	308,078	0	0	
Beet deliveries	D	0	0	-0.2273	
Oct	E	0	0	0	
Nov	F	-84,347	-44,112	-27,605	
Dec	G	-182,932	-83,516	-91,976	
Jan	H	-182,665	-65,590	-105,763	
Feb	I	-194,021	-68,481	-107,778	
Mar	J	-70,732	-23,430	-21,598	
Apr	K	-131,467	-40,736	-62,789	
May	L	-86,849	-19,798	-36,847	
Jun	M	-47,494	0	-16,928	
Jul	N	-80,745	-18,497	-41,429	
Aug	O	0	0	0	
Sept	P	0	0	0	

Model projections of monthly deliveries: total, beet sugar, cane sugar, and direct consumption imports (short tons, raw value).

Delivery months	Formula	Total deliveries (I)	Beet deliveries (II)	Cane deliveries (III)	Direct Cons. Imports (IV) 1/
Oct	A+B+C+D*(II)+E	1,015,811	406,421	496,895	112,495
Nov	A+B+C+D*(II)+F	931,464	362,308	479,318	89,837
Dec	A+B+C+D*(II)+G	832,879	322,905	423,905	86,070
Jan	A+B+C+D*(II)+H	833,146	340,831	406,042	86,273
Feb	A+B+C+D*(II)+J	821,790	337,940	404,684	79,166
Mar	A+B+C+D*(II)+J	945,080	382,990	480,623	81,466
Apr	A+B+C+D*(II)+K	884,344	365,684	443,367	75,293
May	A+B+C+D*(II)+L	928,962	386,622	464,548	77,791
Jun	A+B+C+D*(II)+M	968,317	406,421	479,967	81,930
Jul	A+B+C+D*(II)+N	935,066	387,924	459,671	87,471
Aug	A+B+C+D*(II)+O	1,015,811	406,421	496,895	112,495
Sept	A+B+C+D*(II)+P	1,015,811	406,421	496,895	112,495
Total projected deliveries	Sum	11,128,482	4,512,886	5,532,812	1,082,784

1/ Calculated as a residual; 2/ SMD = Sweetener Market Data from USDA's Farm Service Agency.

Source: USDA, Economic Research Service, Sugar and Sweetener Team.

Mexico Sugar and HFCS

Sugar production in Mexico for 2010/11 is estimated at 5.152 million metric tons, raw value (MTRV) through April 30, 2011. The production pace is above the pace last year by 13 percent. The production season is winding down, with about 400,000 MTRV more sugar to be produced in the next 4 to 6 weeks of the harvest season. Cumulative sugar per hectare produced through the end of April is 8.442 MTRV per hectare, 5.8 percent higher than last year through the corresponding period. Final season sugar yield is expected to be 8.221 MTRV per hectare. Sucrose recovery at 11.72 percent (tel quel measure) through the end of April is a record. Final season recovery should be at about this level and would be a record high as well.

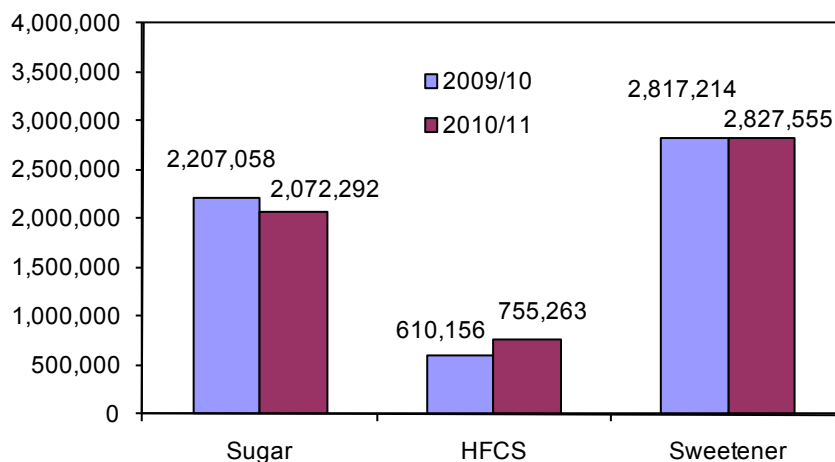
Sweetener consumption through the end of March reported by the *Comite Nacional Para El Desarrollo Sustentable de la Cana de Azucar* (CNDSCA) is 2.828 million tonnes, only slightly above last year's corresponding 6 months of the marketing year cumulative total (fig. 4). Sugar consumption at the marketing year halfway point is 2.072 million tonnes, down 6.1 percent from last year. Consumption of high fructose corn syrup (HFCS), on the other hand, is 23.8 percent higher at 755,263 tonnes, dry weight. If these year-over-year percentages hold for the rest of the year, Mexican sweetener consumption will be very close to USDA-estimated levels of 4.329 million MTRV (4.084 million tonnes, tel quel) for sugar and 1.750 million tonnes, dry weight, for HFCS.

As discussed in the U.S. Sugar chapter of this report, sugar exports to the United States from Mexico have totaled 911,000 MTRV through the end of April. Although the pace of exports will likely fall from this higher-than-expected pace of the first 7 months of 2010/12, total exports are projected higher than last month's projection by 150,000 MTRV. The new projection is 1.382 million MTRV. If realized, this total would be slightly higher than the export level of 1.367 million MTRV in 2008/09.

Figure 4

Sweetener consumption in Mexico, Oct.-Mar., 2009/10-2010/11

Metric tons, tel quel



Source: CNDSCA.

Sugar imports into Mexico were increased 23,000 MTRV to 313,000 MTRV. These imports are from the United States and are intended for delivery into Mexico's sugar-containing product re-export program (IMMEX). The increase was made on the basis of the pace to date of U.S. sugar exports. It is assumed that total deliveries of sugar into the IMMEX program will increase by the same 23,000 MTRV level, implying a delivery total of 323,000 MTRV.²

Ending year stocks are estimated at 802,000 MTRV, lower than last month's projection by the 150,000 MTRV going into exports. The stocks-to-consumption ratio is calculated at 18.5 percent. This level is 3.5 percentage points below the 22.0-percent optimum, indicating an expected tightening in the Mexican sugar market.

The forecast of Mexico sugar supply and use in 2011/12 follows closely the analysis provided by the Foreign Agricultural Service (FAS) post in Mexico City.³ Production conditions in 2011/12 are expected to be similar to those in 2010/11, absent some of the weather disturbances. Harvested area is forecast at 675,000 hectares, the same as that estimated for 2010/11. The sugarcane crop is forecast at 45.5 million tonnes, slightly higher than the FAS estimate for 2010/11 of 45.450 million tonnes. (ERS's Sugar and Sweetener Team estimates 2011 sugarcane production at 44.675 million tonnes.) Sugar production is forecast at 5.650 million MTRV, an increase of 100,000 MTRV over 2010/11.

Sugar consumption in 2011/12 is forecast at 4.460 million MTRV. Per capita sweetener consumption is forecast to grow about 1 percent to 51.8 kilograms per tonne in 2011/12. With a 1.1 percent growth in population, total sweetener consumption is projected at 5.959 million tonnes. A constant consumption level of HFCS at 1.750 million tonnes, dry weight, implies sugar consumption of 4.209 million tonnes, tel quel basis, or 4.462 million MTRV. The implication of this analytical approach is that sweetener food use will likely grow more than sweetener beverage use in 2011/12.

Imports for 2011/12 are projected at 190,000 MTRV. All imports are projected for use in the IMMEX program. Most, but not all of these imports, are expected to come from the United States. Overall sugar deliveries to IMMEX are projected at 300,000 MTRV.

Ending year stocks are assumed to meet the 22-percent optimum target of sugar consumption, for a projection of 981,000 MTRV. Exports are assumed to adjust to reach this target goal – 901,000 MTRV. Most of these exports will go to the U.S. market.

²Most, if not all, U.S. sugar exports occur under the U.S. Refined Sugar Re-Export Program and are destined for IMMEX delivery in Mexico. However, Mexico imports sugar from other countries, most of which is intended for domestic human consumption, with only a small amount finding its way into the IMMEX program.

³ Mexico Sugar Annual, GAIN Report MX1029,
http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Sugar%20Annual_Mexico%20City_Mexico_4-15-2011.pdf

U.S. Sweetener Demand

The Sugar and Sweetener Team of the Economic Research Service (ERS) makes calendar year estimates of total sweetener deliveries that are available for food and beverage consumption by U.S. consumers. These sweeteners include refined sugar; the corn sweeteners of high fructose corn syrup (HFCS), glucose syrup, and dextrose; honey; and other edible syrups, including maple syrup and maple sugar. Table 5 shows the new estimates for 2010 and also certain revisions for prior years.

U.S. deliveries of total sweeteners for human food and beverage use for 2010 are estimated at 20.389 million tons, representing an increase of 1.7 percent compared with deliveries in 2009. Refined sugar deliveries increased by 4.7 percent, while corn sweetener deliveries fell by 1.4 percent. Within the corn sweetener category, HFCS deliveries fell by 1.9 percent. Since 2002, HFCS deliveries have fallen by 1.49 million tons, dry weight, or 16.5 percent. Honey deliveries increased by 13.5 percent, and other edible syrups increased by 4.3 percent.

U.S. sweetener deliveries for 2010 were 131.9 pounds per capita, up slightly from 2009 but down 19.4 pounds from the per capita high of 151.3 pounds in 1999. Per capita sugar consumption in 2010 was 66.0 pounds, its highest level since 1999, while corn sweetener per capita consumption at 64.5 pounds was at its lowest level since 1986.

Sugar contained in imported products is usually excluded in estimating U.S. per capita sweetener deliveries. Before 1995, sugar contained in imports was offset by sugar contained in U.S. food exports, indicating only a minor positive adjustment to total deliveries. Beginning in 1995-96, U.S. imports of sugar-containing products started increasing at a faster rate than exports of the products. This trend continued until 2006, but has since reversed. For 2010, trade in sugar-containing products has contributed an estimated 642,000 tons to sweeteners available for consumption, or 4.2 pounds per capita. This is down from the high of 5.4 pounds in 2006.

Sugar in imported products in 2010 is estimated at 1.193 million tons, a 9-percent increase over 2009 (table 6). This is the first year-over-year increase since 2006. All categories of products show increases over the previous year.

Sugar in exported products has been growing since 2006 and is estimated at 742,000 tons in 2010, up about 6.5 percent over 2009 and 32.3 percent over 2006.

Table 5—U.S. caloric sweeteners estimated deliveries for domestic food and beverage use, by calendar year 1/

Calendar year	U.S. population 2/ (July 1) Millions	Refined sugar	Corn sweeteners				Total	Pure honey	Edible syrups	Total caloric sweeteners	Sugar from net imports 3/	Total caloric sweeteners with sugar-containing products	High-Intensity Sweeteners 4/ (sucrose equivalence)	Total sweeteners, including high-intensity swt.
			HFCS	Glucose syrup	Dextrose	Total								
1,000 tons, dry basis														
1992	256.9	8,249	6,652	1,943	461	9,056	126	53	17,483	174	17,657	2,908	20,565	
1993	260.3	8,305	7,086	2,050	481	9,617	135	56	18,112	279	18,392	3,032	21,423	
1994	263.4	8,478	7,398	2,093	502	9,993	126	54	18,651	153	18,804	3,157	21,960	
1995	266.6	8,652	7,676	2,176	528	10,380	120	57	19,209	121	19,331	3,550	22,881	
1996	269.7	8,767	7,788	2,216	537	10,541	131	57	19,496	116	19,612	3,695	23,308	
1997	273.0	8,853	8,240	2,364	511	11,116	129	58	20,156	197	20,353	3,689	24,041	
1998	276.1	8,964	8,552	2,358	502	11,411	130	59	20,564	274	20,838	3,782	24,620	
1999	279.3	9,257	8,897	2,281	488	11,666	147	60	21,131	354	21,485	3,877	25,362	
2000	282.2	9,252	8,845	2,230	476	11,551	157	60	21,020	304	21,325	3,917	25,241	
2001	285.0	9,195	8,920	2,205	469	11,595	134	61	20,985	388	21,373	4,059	25,432	
2002	287.7	9,105	9,045	2,224	473	11,741	153	62	21,061	529	21,590	4,193	25,783	
2003	290.2	8,848	8,849	2,209	449	11,507	146	63	20,564	621	21,185	4,284	25,468	
2004	292.9	9,029	8,779	2,292	487	11,558	130	64	20,781	656	21,437	4,381	25,817	
2005	295.6	9,324	8,756	2,261	481	11,497	156	66	21,043	669	21,712	4,414	26,126	
2006	298.4	9,286	8,702	2,053	463	11,218	174	66	20,745	812	21,557	4,467	26,024	
2007	301.4	9,230	8,479	2,067	448	10,994	141	67	20,432	777	21,209	4,568	25,777	
2008	304.2	9,911	8,080	2,036	419	10,535	151	69	20,666	603	21,269	4,552	25,821	
2009	306.7	9,740	7,698	1,991	417	10,105	141	69	20,056	521	20,576	NA	NA	
2010	309.1	10,196	7,555	1,956	450	9,961	160	72	20,389	642	21,032	NA	NA	
pounds, dry basis														
1992	---	64.2	51.8	15.1	3.6	70.5	1.0	0.4	136.1	1.4	137.5	22.6	160.1	
1993	---	63.8	54.5	15.8	3.7	73.9	1.0	0.4	139.2	2.1	141.3	23.3	164.6	
1994	---	64.4	56.2	15.9	3.8	75.9	1.0	0.4	141.6	1.2	142.8	24.0	166.7	
1995	---	64.9	57.6	16.3	4.0	77.9	0.9	0.4	144.1	0.9	145.0	26.6	171.7	
1996	---	65.0	57.8	16.4	4.0	78.2	1.0	0.4	144.6	0.9	145.4	27.4	172.8	
1997	---	64.9	60.4	17.3	3.7	81.4	0.9	0.4	147.7	1.4	149.1	27.0	176.2	
1998	---	64.9	61.9	17.1	3.6	82.7	0.9	0.4	148.9	2.0	150.9	27.4	178.3	
1999	---	66.3	63.7	16.3	3.5	83.5	1.1	0.4	151.3	2.5	153.9	27.8	181.6	
2000	---	65.6	62.7	15.8	3.4	81.9	1.1	0.4	149.0	2.2	151.1	27.8	178.9	
2001	---	64.5	62.6	15.5	3.3	81.4	0.9	0.4	147.2	2.7	150.0	28.5	178.4	
2002	---	63.3	62.9	15.5	3.3	81.6	1.1	0.4	146.4	3.7	150.1	29.1	179.2	
2003	---	61.0	61.0	15.2	3.1	79.3	1.0	0.4	141.7	4.3	146.0	29.5	175.5	
2004	---	61.6	59.9	15.6	3.3	78.9	0.9	0.4	141.9	4.5	146.4	29.9	176.3	
2005	---	63.1	59.2	15.3	3.3	77.8	1.1	0.4	142.4	4.5	146.9	29.9	176.8	
2006	---	62.2	58.3	13.8	3.1	75.2	1.2	0.4	139.0	5.4	144.5	29.9	174.4	
2007	---	61.2	56.3	13.7	3.0	73.0	0.9	0.4	135.6	5.2	140.7	30.3	171.1	
2008	---	65.2	53.1	13.4	2.8	69.3	1.0	0.5	135.9	4.0	139.8	29.9	169.8	
2009	---	63.5	50.2	13.0	2.7	65.9	0.9	0.5	130.8	3.4	134.2	NA	NA	
2010	---	66.0	48.9	12.7	2.9	64.5	1.0	0.5	131.9	4.2	136.1	NA	NA	

1/ Per capita deliveries of sweeteners by U.S. processors and refiners and direct-consumption imports to food manufacturers, retailers, and other end users represent the per capita supply of caloric sweeteners. The data exclude deliveries to manufacturers of alcoholic beverages. Actual human intake of caloric sweeteners is lower because of uneaten food, spoilage, and other losses.

2/ U.S. Census Bureau.

3/ Excludes sugar exported as part of USDA's Sugar-Containing Re-Export Program.

4/ SRI Consulting, Chemical Economics Handbook, High-Intensity Sweeteners Market Research Report, May 2007.

Source: USDA, Economic Research Service, Market and Trade Economics Division, Sugar and Sweeteners Team.

Table 6--Estimated sugar in U.S. product imports and exports, 1995-2010

Year	Sugar confectionery	Cocoa and cocoa preparations	Cereal and bakers preparations	Bread, pastry, cakes, etc.	Misc. edible preparations	Carbonated soft drinks	Total sugar in imported products	Total sugar in exported products
					1,000 short tons			
1995	137,760	66,265	6,286	43,705	68,945	26,405	349,365	317,809
1996	148,383	75,911	8,580	49,882	60,729	32,456	375,940	356,966
1997	161,894	92,664	14,273	64,812	68,172	39,403	441,218	390,159
1998	186,572	97,616	19,110	74,726	91,119	39,811	508,954	371,414
1999	223,421	111,807	20,116	87,875	118,876	48,165	610,261	392,208
2000	239,914	130,407	19,548	99,740	120,366	58,745	668,719	442,596
2001	259,975	160,350	18,097	115,917	127,331	64,961	746,630	470,991
2002	299,003	193,608	19,419	117,838	140,369	70,852	841,090	459,931
2003	362,786	208,260	25,139	134,500	150,859	83,440	964,985	507,950
2004	400,819	220,067	25,082	138,898	186,328	97,731	1,068,925	539,237
2005	456,969	231,322	26,012	143,742	187,838	109,747	1,155,630	596,960
2006	499,547	275,449	24,732	148,595	193,692	126,714	1,268,728	560,835
2007	433,062	276,990	25,081	150,538	189,345	128,811	1,260,363	588,293
2008	408,183	271,271	23,698	154,799	186,760	123,355	1,168,066	680,094
2009	381,207	256,855	16,335	157,347	169,954	112,489	1,094,186	696,963
2010	404,525	289,901	16,875	174,021	182,458	125,159	1,192,940	742,069

Source: USDA, ERS, Sugar and Sweetener Team.

World Sugar

USDA's Foreign Agricultural Service (FAS) publishes many reports covering foreign agriculture during the year as part of its Global Agricultural Information Network (GAIN).⁴ Usually in April, FAS releases GAIN reports covering the sugar situation and outlook for many important sugar producing and trading countries. FAS analysts provide much analysis and offer projections for the upcoming marketing year. Although the USDA will not make official projections for the World Sugar Production, Supply, and Distribution (PSD) for the 2011/12 season until May 19, 2011, a review of several of these GAIN reports can provide insight into factors likely to influence world sugar market conditions in the coming year. This chapter attempts to accomplish this review, with the caveat that the projections and estimates are not official USDA data and should be viewed as preliminary, pending additional USDA review and formal clearance.

Australia

In the 2010/11 season, the country suffered greatly from excess rainfall immediately before and during the harvest season and from the largest cyclone making landfall in Australian history. Harvested area was much reduced, and the sugar content of the cane crop was much lower than expected. Sugarcane production dropped from earlier estimates of 33.50 million tonnes to the latest estimate of 27.35 million tonnes.⁵ Corresponding estimates of 2010/11 sugar production dropped from 4.8 million MTRV to 3.7 million MTRV. Production in 2010/11 is estimated at the lowest level since 1991/92.

Recovery in the Australian sugarcane industry is forecast for 2011/12. Area for harvest is projected at 380,000 hectares, an increase of 7.6 percent over 2010/11. Although about 60,000 hectares of sugarcane went unharvested in 2010/11 due to wet conditions, most of the cane from this area is expected to be carried over for harvest in 2011/12. Sugar production for 2011/12 is projected at 4.0 million MTRV, a 300,000-MTRV increase over 2010/11, but still well below the 10-year average of 4.72 million MTRV.

Exports for 2011/12 are forecast at 2.85 million MTRV, up from 2.75 million in 2010/11. As with sugar production, exports in 2011/12 are well below the 10-year average (3.52 million MTRV).

Brazil

Brazilian sugarcane production for 2011/12 is projected at 631 million tonnes, up 2 percent from 2010/11. The Center/South region is expected to harvest 569 million tonnes of sugarcane, up 12 million tonnes from the previous year. The increase is attributable to an increased area for harvesting, especially from new units and those which began operations in the past 3-4 years, notably in Mato Grosso, Mato Grosso do Sul, Goias, and Minas Gerais. Production in the North-Northeastern (NNE) region for 2011/12 is projected at 62 million MTRV, a slight increase (1 million MTRV) from 2010/11. For the nation as a whole, area harvested for 2011/12 is forecast at 8.89 million hectares, up 400,000 hectares from previous crop.

Unlike new investments made in the last few years, only five new production facilities are expected to start crushing in 2011. Poor sugar and ethanol prices in 2007 and 2008, plus the world financial crisis in October 2008, limited the availability of credit, thereby significantly reducing investments in new producing units.

Sugarcane yields for the whole of Brazil are forecast at 71.0 tonnes per hectare, off from 72.8 tonnes per hectare in 2010/11 and 74.9 tonnes per hectare in 2009/10. Lower plantings of new cane in the Center/South have increased the average age of the crop from 3.7 years in 2010/11 to 4.0 years in 2011/12. Dry weather in 2010 affected stock development, which should lead to lower crop productivity, especially in the first quarter of the harvest season.

⁴ <http://gain.fas.usda.gov/Lists/Advanced%20Search/AllItems.aspx>.

⁵ Tonne = metric ton; also, MTRV = metric ton, raw value.

Also, the proportion of the Center/South crop left unharvested from the previous year is estimated at only 3 percent, down from 14 percent in 2009/10. Typically, the held-over crop contributes more strongly to increased yields.

Total reducing sugar (TRS) content of the 2011/12 sugarcane crop is forecast to split at 46.6 percent for sugar and 53.4 percent for ethanol. The sugar percentage is up 0.65 points compared with 2010/11 and is due to strong international demand for sugar. Sugar production for 2011/12 is projected at 39.6 million MTRV, up 1.45 million MTRV from last year. The Center/South is expected to produce 35.35 MTRV, an increase of 5 percent, and the NNE is expected to produce 4.25 million MTRV, about the same as last year.

Total ethanol production for 2011/12 is projected at 27.35 billion liters: 9.3 billion liters of anhydrous ethanol and 18.0 billion liters of hydrous ethanol. Although the sales of flex-fuel vehicles represent 90 percent of total vehicle sales and flex-fuel vehicles represent 45 percent of the light vehicle fleet, high ethanol prices relative to gasoline will limit ethanol demand.

Brazilian sugar consumption in 2011/12 is projected at 12.55 million MTRV, an increase of 550,000 MTRV from 2009/10. The strong growth of demand is a product of population growth and the continued expansion of the Brazilian food-processing sector.

Brazilian exports in 2011/12 are projected at 27.3 million MTRV, an increase of 1.65 million MTRV from last year. Most of this export sugar--21.45 million MTRV--is expected to be raw sugar for further processing.

China

Sugarcane area for 2011/12 is projected to increase 5 percent from last year to 1.87 million hectares due to expected high returns. Last year, the average sugarcane price rose 35 percent to \$70.35 per tonne due to lower domestic sugar supplies and strong demand. Also, sugarcane guidance prices set by provincial governments are expected to rise in 2011/12 to encourage the expansion of sugarcane area. Sugarcane area averages about 87 percent of combined Chinese sugarcane and beet area.

Sugarcane yield is expected to be at 69.5 tonnes per hectare, slightly less than last year. Although some industry contacts initially thought that low spring temperatures in southern China would affect plant yields, recent warmer temperatures and sufficient soil moisture have proven adequate for growth. The overall sugarcane crop is forecast at 130.0 million tonnes, 4.8 percent more than last year.

Chinese sugarbeet area is projected 285,000 hectares, up 10 percent from last year. Last year the average contracting price for sugarbeets rose about 36 percent to \$67.20 per tonne. Sugarbeet processors have announced plans to increase the 2011/12 contracting prices between 15 and 20 percent this year to encourage more planting. (Unlike for sugarcane, there are no provincial guidance prices for sugarbeets.) Total sugarbeet production is forecast at 11.0 million tonnes, an increase of 1.2 million tonnes over last year, or 12.2 percent higher.

Chinese sugar production in 2011/12 is projected at 12.0 million MTRV (11.0 million MTRV cane sugar and 1.0 million MTRV beet sugar), an increase of 700,000 MTRV over 2010/11 total production.

Chinese sugar consumption is forecast to drop 300,000 MTRV from last year to 13.6 million MTRV. Strong Chinese income growth has led to more concentrated sugar demand in the processed food, beverage, and catering sectors. These sectors have increased their demand for sugar by 10 percent in 2010/11, putting pressure on domestic sugar prices. In response to increased prices, these sectors and others have started to substitute lower priced corn sweeteners for increasingly expensive sugar.

Sugar imports in 2011/12 are forecast at 1.6 million MTRV, about the same as last year. As with last year, strong demand and inadequate domestic production make imports attractive. The Chinese tariff-rate quota is expected to be

1.95 million MTRV. The low-tier tariff is 15 percent, and the high-tier tariff is 50 percent. Thirty percent of the TRQ is reserved for non-state trading companies, and 70 percent is for state companies. Under a bilateral agreement with the Government of Cuba, China imports 450,000 MTRV of raw sugar from Cuba.

Ending stocks are projected at 1.7 million MTRV, about 200,000 MTRV more than in 2010/11. Through February, 770,000 million MTRV of state sugar reserves have been auctioned to increase supply to the domestic market in 2010/11.

Colombia

The 2011/12 sugar outlook for Colombia is very similar to the previous year. Sugar production in 2011/12 is forecast at 2.250 million MTRV, about 50,000 MTRV more than in 2010/11. Production in 2010/11 was negatively affected by heavy rains in the fourth quarter of 2010. The forecast for 2011/12 is lower than the average for the last 5 years, mainly due to increases in ethanol production based on use of sugarcane as an ethanol feedstock. By late 2011, ethanol production is expected to expand by 200,000 liters per day to a total of 1.3 million liters per day. Annual capacity will reach 385 million liters.

Colombia harvests sugarcane year-round. Sugarcane growing areas, sugar mills, and ethanol facilities are located in the valley of the Cauca River, with about 208,000 hectares available for the cultivation of sugarcane.⁶ It is estimated that about 18 percent of this area is devoted to ethanol production. Because available area limits combined sugar and ethanol production, most gains in production result from realizing efficiency gains in production and processing.

The sugar industry is currently developing a program of land management by specific areas to increase productivity, given the land expansion constraint. This program identifies different soil characteristics for small areas and then develops a management program for each area. The industry expects that the implementation of this program will take sugarcane production from 120 tonnes per hectare to 160 tonnes per hectare by 2020.

Sugar consumption is estimated at 1.620 million MTRV for 2010/11 and projected at the same amount for 2011/12. The Colombian confectionery sector has demanded more sugar in recent years to meet increased export demand for confectionery products.

Sugar exports in 2011/12 are forecast at 800,000 MTRV. This projection represents only a small 10,000 MTRV increase relative to the weather-affected level in 2010/11. Future exports will continue to be affected by the expansion of ethanol production. Also, Colombian sugar producers continue their efforts to export higher valued refined sugar instead of raw sugar. Refined sugar is estimated to constitute 68.4 percent of 2010/11 exports. The percentage for 2011/12 is similar: 68.8 percent.

European Union

The European Union (EU) is facing sugar supply shortages due to the low level of imports from low-income countries and former colonies that export to the EU under preferential agreements. Sugar imports had already decreased by more than 500,000 tonnes during 2009/10, bringing EU sugar ending stocks to pipeline levels. The EU sugar supply situation has caused the European Commission (EC) to gradually step up measures to counter sugar shortages, from abolishing in-quota import duties in November 2010 to agreeing on further emergency measures as

⁶ Colombia is the second largest non-centrifugal sugar (panela) producer in the world after India. In 2010, Colombian sugarcane area harvested for panela was 202,000 hectares out of 240,000 hectares planted, and production reached 1.3 million tonnes. Unlike the situation in India, sugarcane for panela does not compete with sugarcane for sugar. Panela production is distributed among 70,000 farms that are almost all outside the Cauca River Valley. The Colombian Government is supporting two small pilot projects for ethanol production in panela-producing regions to evaluate the potential for producing ethanol versus panela.

of March 2011. These measures included an additional 300,000-tonne increase in zero-tariff imports and a release for food of 500,000 tonnes of out-of-quota production originally meant for industrial uses. Because ending-year stocks are expected to be very low in spite of these measures, the EC is stimulating increased sugarbeet planting for harvest in 2011/12.

Beet sugar production for 2011/12 is forecast at 15.0 million MTRV. This production is supplemented by 300,000 MTRV of cane sugar produced under quota. Imports are projected at 3.7 million MTRV, an increase of 600,000 MTRV over imports estimated for 2010/11. Exports are projected at 1.01 million MTRV and consumption at 17.5 million MTRV, the same as 2010/11. Ending stocks are projected at 1.618 million MTRV, an increase of 490,000 MTRV above ending stocks estimated for 2010/11.

India

Sugar production in India is cyclical. After 2 years of low production in 2008/09 and 2009/10, production recovered in 2010/11 and is expected to continue recovery in 2011/12. Despite weak sugar prices during 2010/11, cane area is expected to expand to 5.1 million hectares in 2011/12. With normal monsoon conditions, yields should improve over those in 2010/11 and production should be about 350 million tonnes. Total centrifugal sugar production, which includes khandsari sugar, is forecast at 28.3 million MTRV in 2011/12. This forecast represents a 1.65 million MTRV increase, or 6.2 percent over estimated sugar production in 2010/11.

Domestic sugar consumption is expected to be high in 2011/12 due to strong growth of the Indian economy and a population growing at a rate of 1.8 percent each year. With the prospect of improved domestic sugar supply, wholesale sugar prices are expected to decline from 2010/11 levels of \$690 to \$700 per tonne. Lower sugar prices will likely limit consumption shifts to gur, a popular non-centrifugal sugar in India that uses domestically grown sugarcane.

During 2010/11, the Indian Government relaxed many import restrictions due to concerns over food price inflation. Imported sugar was made exempt from levy sugar obligations and market quota release requirements. Duty-free imports of sugar were extended to the end of March 2011. As of April 1, 2011, the normal 60-percent import duty was reimposed. Imports for 2011/12 are expected to be only 100,000 MTRV of raw sugar, down from 1.2 million MTRV of total sugar estimated for 2010/11 (1.0 million MTRV of raw sugar and 200,000 of refined sugar).

Ending-year stocks for 2011/12 are forecast at 7.94 million MTRV. This amount is slightly over 25 percent of expected consumption--the level considered to be an optimal stockholding percentage in India at the end of the marketing year. Given expected sugar supply conditions, exports as high as 1.8 million MTRV are forecast in 2011/12.

Indonesia

Indonesia produces mainly plantation white sugar from domestically grown sugarcane, most of which is sold for direct consumption. There are a total of 106 sugarcane mills in Indonesia-- 8 in Java and most of the rest in Sumatera. Although most sugarcane is grown in Java, most recent area expansion has occurred elsewhere. There are eight sugar refineries in Indonesia, with a combined melt capacity of 3.2 million MTRV.

Indonesia is also a large importer of raw sugar that is refined domestically, mostly for sale to food and beverage industries. Most imported sugar comes from Thailand because of low transport costs and desirable quality characteristics of Thai sugar (mainly having to do with Indonesian color preferences).

A policy goal of the Indonesian Government is to achieve self-sufficiency in sugar by 2014. To help achieve this goal, the Government started a capital revitalization program in 2008. The program gives partial reimbursement to sugar factories that purchase new machinery. The new machinery, however, must represent advanced technology and be domestically produced. The Government has contributed about \$288 million to this program. According to the Agricultural Ministry, the Government has also recently issued licenses for opening new sugarcane plantations

totaling about 215,000 hectares throughout the island nation. Most observers doubt that these measures are strong enough to enable the nation to reach self-sufficiency within the Government's time target.

Sugarcane area for 2011/12 is forecast at 340,000 hectares, slightly higher than the year before. Yield is also forecast at slightly above last year, 84.8 tonnes per hectare, implying a sugarcane crop of 28.0 million tonnes. Assuming a return to normal weather, sugar recovery is forecast at 7.5 percent, up from 6.5 percent in 2010/11, a production year made notable by excessive rainfall. Sugar production is projected at 2.088 million MTRV.

Sugar consumption is forecast at 5.2 million MTRV, an increase of 200,000 MTRV from 2010/11. Direct sugar consumption is expected to be 2.8 million MTRV, with the remainder going to food and beverage manufacturers. Per capita sugar consumption is about 19 kilograms. The self-sufficiency ratio is 0.40.

Sugar trade is heavily regulated by the Government, with tariffs ranging between \$63.70 and \$91.60 per tonne. Under normal conditions, white sugar can be imported by only four registered importers, and raw sugar imports face restrictions as well. Imports for 2011/12 are projected at 3.01 million MTRV, 95 percent of which are expected to be raw sugar.

Pakistan

Sugarcane in Pakistan is grown on about a million hectares, concentrated in the provinces of Punjab (about 66 percent), Sindh (about 23 percent), and the Northwest Frontier (about 10 percent). There are 84 mills, and sugar production has averaged about 3.4 million MTRV since 1999/2000. In consultation with farmers and processors, provincial governments set sugarcane prices. From 2005/06 to 2008/09, these prices averaged about \$23.35 per tonne. The average in 2009/10 was \$29.50 per tonne and rose to \$36.50 in 2010/11.

Sugarcane production in 2010/11 is estimated at 54.0 million tonnes, up from 49.0 million tonnes the year before. Although much of Pakistan experienced historic flooding conditions in 2010, the sugarcane crop benefited from these wet conditions and the weather after the flooding proved beneficial to good crop development. Sugarcane area in 2011/12 is expected to decrease about 2 percent to 990,000 hectares due to higher prices for cotton and sunflowers. Production in 2011/12 is expected to decline to 52.8 million tonnes.

Sugar production from sugarcane in 2011/12 is forecast at 3.8 million MTRV. Along with sugar from the sugarbeet crop, forecast at 20,000 MTRV, total production is expected to be 3.820 million MTRV. High sugar prices in 2010, about \$825 per tonne, limited sugar consumption. Some observers attributed high domestic prices to the poor timing of imports during the marketing year. With good production prospects and a lowering of world sugar prices, prices for the rest of 2011 are forecast at about \$791 per tonne. Sugar consumption for 2010/11 is estimated at 4.25 million MTRV and is forecast to climb to 4.30 million MTRV in 2011/12. Much is dependent on the level of imports, largely controlled by the national Government, which in turn is subject to pressure from special interests. The FAS post in Pakistan projects 2011/12 imports at 600,000 MTRV, up from the 250,000 MTRV estimated for 2010/11.

Russia

Sugarbeet area harvested in 2011/12 is projected to increase to 981,000 hectares, representing 9.6 percent growth from 2010/11. Area planted in 2009/10 had already represented 41 percent growth from the previous year, but a severe summer drought either destroyed or heavily damaged beets on 250,000 hectares in 17 out of 26 beet producing regions in Russia. With a return to normal weather conditions in 2011/12, production is forecast at 30.0 million tonnes, up 35 percent over 2010/11. Sugarbeet production is projected at 4.32 million MTRV, up from 3.91 million MTRV in the previous year.

Most Russian sugarbeet production takes place in large agricultural enterprises or in operations owned by refineries. The growing of sugarbeets is profitable in Russia. Returns over cost increased from 4.7 percent in 2007 to 25.7

percent in 2009. Producers are continuing to benefit from a state program, which began in 2010 and extends through 2012, that supports beet seed production and compensates for increased costs of fertilizer and plant protection chemicals. To aid further development, the Russian Ministry of Agriculture has approved subsidies for the reconstruction and modernization of 18 sugar factories and for the construction of 5 new factories. State funding is increasing from \$460 million in 2010 to \$490 million in 2011 and to \$526 million in 2012.

With a larger domestic beet sugar crop, it is expected that imports of raw sugar will fall to an amount slightly above 1.7 million MTRV in 2011/12. The Russian Government uses seasonal import tariffs to control the volume of imports. Refined sugar imports, mainly from Belarus under a preferential trade agreement, are projected at 275,000 MTRV.

South Africa

South African sugarcane production continues to suffer from the effects of the severe 2010 drought in KwaZulu-Natal province, where 75 percent of the crop is grown. The drought destroyed much of the existing crop and also forced the harvest of young cane in 2010/11. The first half of the 2011/12 harvest will be primarily affected, with the only significant production occurring in the latter half of the season in the affected areas. Sugarcane production in 2011/12 is forecast at 15.0 million tonnes, about a million less than in 2010/11. Sugar production is forecast at 1.837 million MTRV, the smallest total in 15 years.

Exports are projected to continue their downward trend, which has been occurring since 2008/09. For 2009/10 and 2010/11, exports are estimated at 830,000 MTRV (70 percent of exports in 2008/09) and 500,000 MTRV (42 percent of exports in 2008/09), respectively. The projection for 2011/12 is 450,000 MTRV.

Thailand

The Thai sugar sector benefits greatly from Government-based support. Sugarcane support prices for 2010/11 were set at 1,045 baht per tonne (about \$35 per tonne), an increase of 8.3 percent from the previous year. The increase is expected to encourage further area expansion in 2011/12. Since May 2010, the Thai Government has approved investments for sugarcane processing that will increase the number of factories from 47 to 59 over a 5-year period and will increase daily milling capacity 33 percent from 0.9 million tonnes per day to 1.2 million tonnes. Over the expansion period, area is expected to increase 30 percent, substituting for area planted to tapioca and corn.⁷ Additionally, the Government in September 2010 approved funds for 3-year term loans totaling 3.0 billion baht (about \$100 million) for cane growers to purchase harvest machinery to improve efficiency. The Government sets minimum domestic wholesale and retail sugar prices and collects proceeds from a Value Added Tax. These consumer-based measures help finance aid to the producing sector.

Sugarcane production in 2010/11 grew to a record 89.0 million tonnes, an increase of 29 percent from the previous year, due to above-average weather conditions, policy measures discussed above, and high world sugar prices. Production gains are expected to continue into 2011/12, with production projected at 94.0 million tonnes on an area of 1.3 million hectares, 5 percent higher than in 2010/11. Sugar production is forecast at 9.7 million MTRV, up from the record 2010/11 level of 9.16 million MTRV. Exports are expected to increase to 7.3 million MTRV, up from the 2010/11 level of 6.9 million MTRV.

Ukraine

Area planted to sugarbeets is expected to increase for the 2011/12 crop by 12 percent to 560,000 hectares. This increase follows an increase in area for 2010/11 that--at 500,000 hectares--represented a 56-percent increase compared with the 2009/10 area planted. Sugarbeet production is projected at 16.9 million tonnes, a 23-percent

⁷ Tapioca yields have been lowered by the infestation of mealy bugs. The bugs are resistant to chemical controls. Combating the infestation has required earlier than optimal harvests of the crop, which has lowered yields.

increase over the previous year's drought-affected total. Most sugarbeets are grown by large, vertically integrated companies that own processing facilities. Profitability has been aided by high world sugar prices. State subsidies for sugarbeet production are not expected for the 2011/12 crop, however.

Beet sugar production for 2011/12 is projected at 2.1 million MTRV, up from 1.685 million MTRV in 2010/11. Sugar production is regulated by the Government of the Ukraine through quotas assigned to processors and minimum prices for sugar produced under quota. The quota price for 2011/12 was set at \$618 per tonne. With the growth in beet sugar production, imports are not expected in 2011/12. The Ukraine does have a free trade agreement with Belarus that covers imports of refined beet sugar. If the Ukraine were able to finalize a free trade agreement with Russia, it is possible that Ukraine could export 100,000 MTRV to Russia in 2011/12. Overall exports in 2011/12 are forecast at 217,000 MTRV.

Table 7--U.S. sugar: supply and use, by fiscal year 1/ 5/16/11

Items	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
<i>1,000 short tons, raw value</i>												
Beginning stocks 2/	2,216	2,180	1,528	1,670	1,897	1,332	1,698	1,799	1,664	1,534	1,510	1,611
Total production 3/ 4/	8,769	7,900	8,426	8,649	7,876	7,399	8,445	8,152	7,531	7,975	7,950	8,190
Beet sugar	4,680	3,915	4,462	4,692	4,611	4,444	5,008	4,721	4,214	4,575	4,800	4,800
Cane sugar	4,089	3,985	3,964	3,957	3,265	2,955	3,438	3,431	3,317	3,400	3,150	3,390
Florida	2,057	1,980	2,129	2,154	1,693	1,367	1,719	1,645	1,577	1,646	1,433	1,630
Louisiana	1,585	1,580	1,367	1,377	1,157	1,190	1,320	1,446	1,397	1,481	1,400	1,440
Texas	206	174	191	175	158	175	177	158	152	112	147	150
Hawaii	241	251	276	251	258	223	222	182	192	161	170	170
Puerto Rico	0	0	0	0	0	0	0	0	0	0	0	0
Total imports	1,590	1,535	1,730	1,750	2,100	3,443	2,080	2,620	3,082	3,319	3,586	2,599
Tariff-rate quota imports 5/	1,277	1,158	1,210	1,226	1,408	2,588	1,624	1,354	1,370	1,854	1,752	1,259
Other program imports	238	296	488	464	500	349	390	565	308	450	300	350
Non-program imports	76	81	32	60	192	506	66	701	1,404	1,014	1,534	990
Mexico 6/							60	694	1,402	807	1,514	980
Total supply	12,575	11,615	11,684	12,070	11,873	12,174	12,223	12,571	12,277	12,828	13,046	12,400
Total exports 3/	141	137	142	288	259	203	422	203	136	211	250	200
Quota-exempt for re-export	141	137	142	288	259	203	422	203	136	211	250	200
Other exports	0	0	0	0	0	0	0	0	0	0	0	0
CCC disposal, for export	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	123	-24	161	23	94	-67	-132	0	0	-45	0	0
CCC disposal, for domestic non-food use	10	0	0	0	0	0	0	0	0	0	0	0
Refining loss adjustment	0	0	0	0	0	0	0	0	0	-45	0	0
Statistical adjustment 7/	113	-24	161	23	94	-67	-132	0	0	0	0	0
Deliveries for domestic use	10,132	9,974	9,711	9,862	10,188	10,340	10,135	10,704	10,607	11,152	11,185	11,315
Transfer to sugar-cont. products												
for exports under re-export program	98	156	183	142	121	106	169	141	120	201	145	150
Transfer to polyhydric alcohol, feed	33	33	24	41	48	51	53	61	46	35	40	40
Deliveries for domestic food and beverage use 8/	10,000	9,785	9,504	9,678	10,019	10,184	9,913	10,501	10,441	10,917	11,000	11,125
Total use	10,396	10,087	10,014	10,172	10,542	10,476	10,424	10,907	10,743	11,318	11,435	11,515
Ending stocks 2/	2,180	1,528	1,670	1,897	1,332	1,698	1,799	1,664	1,534	1,510	1,611	885
Privately owned	1,395	1,316										
CCC	784	212										
<i>Percent</i>												
Stocks-to-use ratio	20.97	15.15	16.68	18.65	12.63	16.21	17.25	15.26	14.28	13.35	14.09	7.68

Note: Numbers may not add due to rounding.

1/ Fiscal year beginning October 1. 2/ Stocks in hands of primary distributors and CCC. 3/ Historical data are from FSA (formerly ASC) *Sweetener Market Data* (SMD), and NASS, Sugar Market Statistics prior to 1992. 4/ Production reflects processors' projections compiled by the Farm Service Agency. 5/ Actual arrivals under the tariff-rate quota (TRQ) with late entries, early entries, and (TRQ) overfills assigned to the fiscal year in which they actually arrived. The 2010/11 available TRQ assumes shortfall of 50,256 tons. 6/ Starting in 2007/08, total includes imports under Mexico's WTO TRQ allocation for raw and refined sugar. 7/ Calculated as a residual. Largely consists of invisible stocks change.

8/ For FY 2008-09, combines SMD deliveries for domestic human use, SMD miscellaneous uses, and the difference between SMD imports and *World Supply and Demand Estimates* imports.

Source: USDA, *World Supply and Demand Estimates*.

Table 8--U.S. sugar: supply and use (including Puerto Rico), fiscal years, metric tonnes 1/, 5/16/11

Items	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
	<i>1,000 metric tons, raw value</i>											
Beginning stocks 2/	2,010	1,977	1,386	1,515	1,721	1,208	1,540	1,632	1,510	1,392	1,370	1,461
Total production 3/ 4/	7,955	7,167	7,644	7,846	7,145	6,712	7,662	7,396	6,832	7,235	7,212	7,430
Beet sugar	4,245	3,552	4,048	4,257	4,183	4,032	4,543	4,283	3,822	4,151	4,354	4,354
Cane sugar	3,710	3,615	3,596	3,590	2,962	2,681	3,119	3,113	3,009	3,084	2,857	3,075
Florida	1,866	1,796	1,932	1,954	1,536	1,240	1,559	1,492	1,431	1,493	1,300	1,479
Louisiana	1,438	1,433	1,240	1,249	1,049	1,079	1,198	1,312	1,267	1,344	1,270	1,306
Texas	187	158	173	159	143	159	161	143	138	101	133	136
Hawaii	219	227	251	228	234	202	201	165	174	146	154	154
Puerto Rico	0	0	0	0	0	0	0	0	0	0	0	0
Total imports	1,443	1,393	1,570	1,588	1,905	3,124	1,887	2,377	2,796	3,011	3,253	2,358
Tariff-rate quota imports 5/	1,158	1,051	1,098	1,113	1,277	2,348	1,473	1,229	1,243	1,682	1,589	1,142
Other program imports	216	269	443	421	454	317	354	513	279	408	272	318
Non-program imports	69	73	29	54	174	459	60	636	1,274	920	1,392	898
Mexico 6/												
Total Supply	11,408	10,537	10,599	10,949	10,771	11,044	11,088	11,404	11,138	11,637	11,835	11,249
Total exports 3/	128	125	129	261	235	184	383	184	123	191	227	181
Quota-exempt for re-export	128	125	129	261	235	184	383	184	123	191	227	181
Other exports	0	0	0	0	0	0	0	0	0	0	0	0
CCC disposal, for export	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	112	-22	146	20	85	-61	-120	0	0	-41	0	0
CCC disposal, for domestic non-food use	9	0	0	0	0	0	0	0	0	0	0	0
Refining loss adjustment	0	0	0	0	0	0	0	0	0	-41	0	0
Statistical adjustment 7/	103	-22	146	20	85	-61	-120	0	0	0	0	0
Deliveries for domestic use	9,191	9,048	8,810	8,946	9,243	9,381	9,194	9,710	9,623	10,117	10,147	10,265
Transfer to sugar-containing products for exports under reexport program	89	141	166	129	110	96	153	128	109	183	132	136
Transfer to polyhydric alcohol, feed	30	30	22	38	44	46	48	56	42	31	36	36
Deliveries for domestic food and beverage use 8/	9,072	8,877	8,622	8,780	9,089	9,239	8,993	9,527	9,472	9,903	9,979	10,092
Total use	9,431	9,151	9,084	9,228	9,563	9,504	9,457	9,895	9,746	10,267	10,374	10,446
Ending stocks 2/	1,977	1,386	1,515	1,721	1,208	1,540	1,632	1,510	1,392	1,370	1,461	803
Privately owned	1,266	1,194										
CCC	711	192										
	<i>Percent</i>											
Stocks-to-use ratio	20.97	15.15	16.68	18.65	12.63	16.21	17.25	15.26	14.28	13.35	14.09	7.68

Note: Numbers may not add due to rounding.

1/ Fiscal year beginning October 1. 2/ Stocks in hands of primary distributors and CCC. 3/ Historical data are from FSA (Farm Service Agency) *sweetener Market Data* (SMD), and NASS, Sugar Market Statistics prior to 1992. 4/ Production reflects processors' projections compiled by the Farm Service Agency. 5/ Actual arrivals under the tariff-rate quota (TRQ) with late entries, early entries, and (TRQ) overfills assigned to the fiscal year in which they actually arrived. The 2010/11 available TRQ assumes shortfall of 45,592 tonnes. 6/ Starting in 2007/08, total includes imports under Mexico's WTO (World Trade Organization) TRQ allocation for raw and refined sugar. 7/ Calculated as a residual. Largely consists of invisible stocks change.

8/ For FY 2008-09, combines SMD deliveries for domestic human use, SMD miscellaneous uses, and the difference between SMD imports and *World Agricultural Supply and Demand Estimates* imports.

Source: USDA, *World Agricultural Supply and Demand Estimates*.

Table 9--Mexico: sugar production and supply, and sugar and HFCS utilization, 5/16/2011

Fiscal year (Oct/Sept)	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11 1/	2011/12 1/
	<i>1,000 metric tons</i>											
Beginning stocks	1,063	1,548	1,172	1,194	1,237	1,965	1,294	1,718	1,975	624	973	802
Production	5,220	5,169	5,229	5,330	6,149	5,604	5,633	5,852	5,260	5,115	5,550	5,650
Imports	43	52	63	327	268	240	474	226	160	861	313	190
Supply	6,326	6,769	6,464	6,851	7,654	7,809	7,401	7,796	7,395	6,600	6,836	6,642
Disappearance												
Human consumption	4,481	5,004	5,097	5,380	5,279	5,326	5,133	5,090	5,065	4,615	4,329	4,460
Other consumption.	142	180	135	220	282	323	390	414	475	302	323	300
Miscellaneous								-360	-136	-27		
Total	4,623	5,184	5,232	5,600	5,561	5,649	5,523	5,144	5,404	4,890	4,652	4,760
Exports	155	413	38	14	128	866	160	677	1,367	737	1,382	901
Total use	4,778	5,597	5,270	5,614	5,689	6,515	5,683	5,821	6,771	5,627	6,034	5,661
Ending stocks	1,548	1,172	1,194	1,237	1,965	1,294	1,718	1,975	624	973	802	981
Stocks-to-human consumption	34.5	23.4	23.4	23.0	37.2	24.3	33.5	38.8	12.3	21.1	18.5	22.0
Stocks-to-use	32.4	20.9	22.7	22.0	34.6	19.9	30.2	33.9	9.2	17.3	13.3	17.3
HFCS consumption . (dry weight)	600	263	130	135	355	667	698	782	653	1,418	1,750	1,750

1/ Forecast.

Source: USDA, Foreign Agricultural Service, PSD database (historical data); *World Agricultural Supply and Demand Estimates* (forecast data).

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