



United States  
Department of  
Agriculture

Foreign  
Agricultural  
Service

# Sugar: World Production Supply and Distribution

**November 2009**

## **Overview**

World sugar production for the 2009/10 marketing year is estimated at 153.3 million tons, raw value, down 6.4 million from the May 2009 forecast. Consumption is forecast at 153.7 million tons, down 5.3 million tons from the May forecast. Exports are estimated at 51.2 million tons, unchanged from May; and ending stocks are estimated at 26.0 million tons, down 5.2 million tons.

Changes in 2009/10 world production and trade are highlighted by lower production in Brazil, at 35.8 million tons, down one million. Brazil accounts for 23 percent of world production, but Asia accounts for 35 percent. Production in Asia is down by 4.3 million tons to 54.9 million. Production in India for 2009/10 is estimated at 17.3 million ton, down 3.5 million, China at 13.2 million tons, down 1.3 million, and Thailand at 7.7 million tons, up 200,000. Production in the EU-27 is estimated at 15.4 million tons up 1.5 million tons. India is now expected to be the world's largest net sugar importer in 2009/10 at 6 million tons. Exports from Brazil for 2009/10 are estimated at 23.9 million tons, down 400,000 tons from the May forecast. Thailand is estimated to export 5.8 million tons, up 100,000 from May, and shipments Australia are pegged at 3.7 million tons, up 100,000.

World raw sugar prices were strong in May at over 12 cent/lb. This recognized tight supplies of available sugar, but the market expected both Brazilian and Indian production to be strong and cover demand before the end of the marketing year. As the summer progressed it became apparent that the Indian harvest would be severely reduced, further tightening supplies before going into the 09/10 marketing year. At the same time, it became clear that the weather-reduced Brazilian harvest would not be able to compensate. Prices moved up strongly in 2009 sometimes moving between 23 and 24 cents/lb for the nearby March 2010 futures.

These movements reflected a large 08/09 production deficit marked by a 10.6 million ton difference between production and consumption and a 30 percent reduction of ending stocks - 12.2 million tons. The situation was further aggravated by a steady appreciation of the Brazilian real vs. the US dollar. Early December marked low point of the nearby futures price - of about 11.6 cents/lb - and the beginning of the real appreciation. In the past eleven months the price of raw sugar has increased 100 percent and the real has appreciated 34 percent.

## **Highlights of the Major Producers**

Brazil, India, Thailand, and China account for 50 percent of world production and 59 percent of world exports.

### **Brazil**

#### **Sugarcane Production, Area and Yield**

Brazilian sugarcane production for 2009/10 is estimated at 592 million tons, down 13 million tons from the previous estimate, but up 22 million tons compared to 08/09 (570 million tons).

The center-south (CS) region should contribute 530 million tons of sugarcane, down 10 million tons relative to the previous figure. The harvest has been severely interrupted throughout the season due to excessive rainfall, which has diminished the volume of sugarcane for crushing. The Sao Paulo Sugarcane Agroindustry Union (UNICA) reports that 50 harvesting days have already been lost due to rainfall, as opposed to 34 days during the same period in 2008 (March-September). Assuming that the CS harvest will end in December, industry contacts report that approximately 50 million tons of sugarcane will be left in the fields.

According to UNICA, 377.5 million tons of sugarcane were crushed in the CS from March through September, an increase of 7.7 percent compared to the same period in 2008. UNICA reports that 20.8 million tons of sugar, tel quell (as is), and 16.4 billion liters of ethanol were produced through October, clearly indicating that more sugarcane has been diverted toward sugar production than from the previous crop (19 million tons of sugar and 16.9 billion liters of ethanol were produced during the same period last year). Note that 17 out of 23 new mills scheduled to start crushing this season are in operation. The remainder should start crushing by the end of the season.

The North-Northeast (NNE) is forecast to crush 62 million tons of sugarcane, down 3 million tons from the previous forecast due to weather related problems. The crush has just begun for major producers in Alagoas and Pernambuco, and the harvest should extend through March.

Total sugarcane area and sugarcane area for harvesting for 2009/10 remain unchanged at 8.7 and 8.05 million hectares (ha), respectively. The agricultural yield for 2009/10 is projected at 79.75 metric tons (mt)/ha, slightly up from 2008/09 (78.95 mt/ha), due to good weather conditions supporting stock development. On the other hand, above average rainfall during the June-September period has negatively impacted industrial yield which is estimated at 136.8 kg of TRS (total reducing sugars)/mt of sugarcane, down 2.5 percent from previous (140.32 kg TRS/mt).

#### **Sugarcane and Ethanol**

The sugarcane breakdown for sugar/ethanol has confirmed the trend towards sugar. Total sucrose (total reducing sugar, TRS) content destined for sugar and ethanol production is estimated at 44.65 and 55.35 percent, respectively, as opposed to 40.4 and

59.6 percent, respectively for the previous season. India is projected to become a net importer of sugar, thus encouraging Brazilian production.

Sugar production for 2009/10 is estimated at 35.5 million tons, raw value, up by 3.65 million tons, raw value, from 2008/09. Total ethanol production for 2009/10 is estimated 25.5 billion liters (7.5 billion liters of anhydrous ethanol and 18 billion liters of hydrated ethanol), down 2 billion liters from previous marketing year. Strong demand for sugar in international markets and the expected lower size of the sugarcane crop will likely limit ethanol production.

Estimates released by the Brazilian Ministry of Agriculture, Livestock, and Supply (MAPA) place cumulative alcohol production for the 2009/10 crop through August 31, 2009 at 14 billion liters – 3.37 billion liters of anhydrous alcohol and 10.73 billion liters of hydrated alcohol.

### **Sugarcane, Sugar and Ethanol Prices in the Domestic Market**

According to the State of Sao Paulo Sugarcane, Sugar and Alcohol Growers Council (CONSECANA), the cumulative average sugarcane price for the state of Sao Paulo for 2009/10 (April-August) is R\$ 0.2913 per kg of TRS, which is equivalent to R\$ 38.23 per ton of sugarcane.

Steady sugar prices throughout the season have been supported by strong demand for the product both in the domestic and international markets, notably India. Ethanol prices have shown a recent upward trend, supported by the likely decrease in the size of the sugarcane crop and by the fact that mills have shown a preference for sugar production as opposed to ethanol.

In spite of steady sales of flex-fuel vehicles (FFV), domestic demand for ethanol for 2009/10 is projected at 23.5 billion liters, up 1.4 billion liters compared to 2008/09, but down 1 billion liters from the previous estimate for the current season. Expected lower supply and projected higher prices as of October should result in less attractive ethanol prices at the pump, thus lowering demand for the product.

### **Sugar Exports**

Brazilian sugar exports for marketing year 2009/10 are estimated at 23.85 million tons, raw value, up 2.3 million tons compared to the previous. Strong demand in India is a direct driver of the increase. Raw sugar exports will contribute 17.9 million tons of total exports. Refined sugar will add 5.95 million tons, raw value.

### **Ethanol Exports**

Ethanol exports for 2009/10 are estimated at 3 billion liters, a 1.69 billion liter reduction compared to 2008/09 (4.69 billion liters), mostly due to an expected decrease in direct exports to the United States.

**Stocks:**

Domestic carry over stocks in 2008/09 were adjusted downward to -1.135 million tons, raw value, based on strong sugar exports and recent trade figures. Negative stocks have been balanced by the early start (March) of the sugarcane harvest in the CS region (March) as opposed to the official beginning of the season (May). Sugar ending stocks for 2009/10 are projected at -1.235 million tons, raw value. Again, negative stocks should be balanced by the early start of the MY 2010/11, March as opposed to May.

**Policy:**

The Brazilian government has recently proposed a new bill to the Congress that restricts the use of land for sugarcane plantation. If approved, sugarcane planting will not be permitted in the Amazon, the Brazilian Wetlands (Pantanal) and in the upper Paraguay River Basin regions, in addition to conservation land units and native Indian territories (adding up to 92 percent of the country's land availability). The proposed bill is based on the National Agri-Ecological Zoning for Sugarcane ("ZAE Cana") which defines the suitability of land for sugarcane production based on environmental, economic and social criteria.

The Brazilian government has also proposed a phase out agenda to prohibit the burning of sugarcane nationwide. According to the proposal, the burning of sugarcane in all mechanized areas will be prohibited in 2017.

**India****Summary Production:**

Forecast for 2009/10 sugar production is lowered to 17.3 million tons (including 400,000 tons of khandsari<sup>[1]</sup> sugar) due to expected lower sugarcane production and higher diversion of cane for alternative sweetener (*gur*<sup>[2]</sup>). *Gur* production is forecast higher at 8.2 million tons from the earlier estimate of 7.6 million tons<sup>[3]</sup> on strong prices.

The sugarcane production forecast is lowered to 278 million tons from the earlier estimate of 305 million tons on lower-than-anticipated cane acreage (4.25 million hectares) and likely lower yields due to poor and uneven monsoon rains in June-August during the crop growth stage. Expected strong sweetener prices will support higher cane prices, which in turn may support higher cane planting/production and sugar production for 2010/11.

Sugar production for 2008/09 is also lowered from 16.9 to 16.1 million tons due to higher than anticipated late-season diversion of cane for production of '*gur*'. Based on the latest figures available from the Ministry of Agriculture, sugarcane area and production for 2008/09 are revised marginally lower.

<sup>[1]</sup> *Khandsari* sugar: a low recovery centrifugal sugar prepared by open-pan evaporation method.

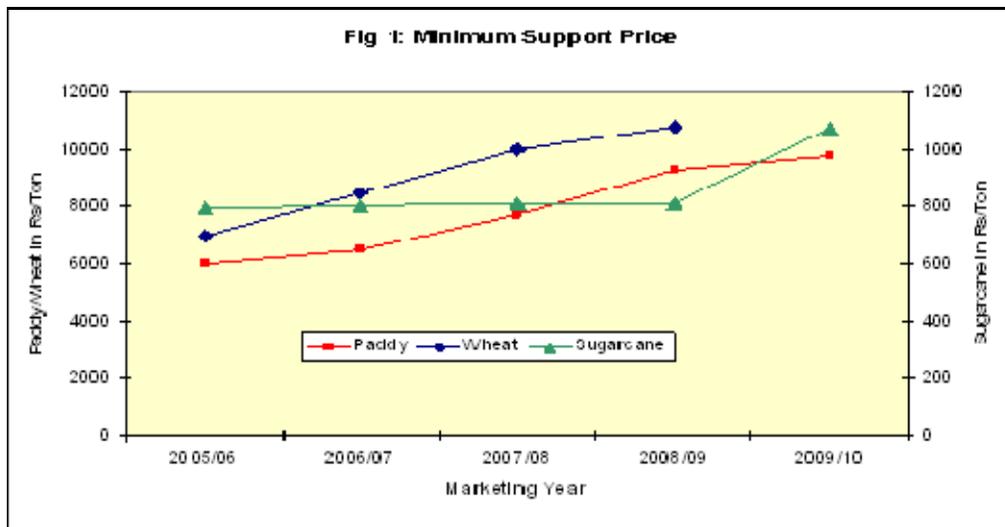
<sup>[2]</sup> *Gur*: a crude non-centrifugal sugar in lump form produced by open pan evaporation method.

<sup>[3]</sup> See India Sugar Annual 2009 (IN9049)

## 2008/09 Sugar Production Slump

After three consecutive years of bumper crops (2005/06 to 2007/08), sugar production in 2008/09 slumped by an unprecedented 44 percent over the previous year due to reduced cane availability. Most of the mills in the major cane producing states closed 1-2 months earlier than normal due to the short cane supplies.

The consecutive bumper production resulted in a market glut during 2006/07 and 2007/08, leading to low sugar prices and poor financial conditions for the sugar mills. Cash flow problems resulted in delayed cane payments to the farmers. Furthermore, the government significantly raised the minimum support price (MSP) of competing crops i.e. paddy rice and wheat, while keeping the sugarcane MSP stagnant.



Due to stagnant cane prices and delayed cane payments, during 2006/07 and 2007/08, farmers shifted from sugarcane to the more profitable rice-wheat crop rotation. Thus, in 2008/09 harvested cane area declined by 13 percent over the previous year. Lower cane yield and sugar recovery adversely affected sugar production due to a higher share of the retune crop<sup>[4]</sup>, lower input use<sup>[5]</sup>, abnormally higher winter temperatures, and the lack of winter rains. Consequently, sugarcane production in 2008/09 declined to 271 million tons, nearly 7 percent lower than the previous year. Further, cane availability to the sugar mills was constrained by higher than anticipated late-season diversion of sugarcane to produce 'gur' due to abnormally high prices<sup>[6]</sup>.

<sup>4]</sup> The cane yield of retune crop is normally lower than that of new planted cane crop.

<sup>5]</sup> Farmers were less inclined to invest on fertilizers, other inputs and inter-culture operations of the cane crop due to poor cash returns in the last two year.

<sup>6]</sup> There was a strong demand for 'gur' by country liquor and cheap alcoholic beverage manufacturers due to the short supply of molasses from the sugar mills.

### **2009/10 Prospects Dull**

Based on the provisional estimates from the Ministry of Agriculture, 2009/10 area planted to sugar cane is reduced to 4.25 million hectares. While new cane planting in 2008/09 is estimated higher than the previous year, it has not been enough to account for the decline in area due to the removal of the retune cane <sup>[7]</sup> planted in 2005/06 and 2006/07.

Market sources report the additional cane prices paid by the sugar mills and gur manufacturers in 2008/09 was just enough to account for the higher cost of production. <sup>[8]</sup> The delay in announcement of an MSP for sugarcane for the 2009/10 <sup>[9]</sup>, coupled with significant increase in MSP for rice and wheat in the 2008/09 discouraged farmers from planting sugarcane. Consequently, 2009/10 cane area declined to 4.25 million hectares against the earlier expectation of 4.8 million hectares.

However, yield prospects have been partially marred by delayed and uneven monsoon rains. Consequently, the 2009/10 sugarcane production forecast is lowered to 278 million bales compared to the earlier forecast of 305 million tons. The cane supplies to the mills will be under pressure from the 'gur' manufacturers starting from the beginning of the season due to abnormally strong 'gur' prices. The sugar mills have approached the government seeking controls on operations of the 'gur' manufacturers. Government control of sector is practically and politically difficult as 'gur' manufacturing is made up of small scale operations undertaken by vast numbers of rural households. Assuming no significant change in government policy towards 'gur' manufacturers, 2009/10 sugar production forecast is lowered to 17.3 million tons on likely lower cane supplies to the mills.

### **2010/11 Prospects Bright**

The expected strong sweetener prices during the forthcoming season will result in a higher cane price payment by the sugar mills and 'gur' manufacturers. Cane prices may range from Rs. 1800 to 2400 per ton, significantly higher than previous years, which should encourage farmers to revert back to sugarcane in 2010. Thus, 2010/11 cane acreage is expected to recover from the current low. However, the quantum of new planting during 2009/10 may be tempered by relative prices of competing crops (rice and wheat). While it is too early to forecast production at this stage, India's sugarcane and sugar production is expected to recover from the last two years' low levels.

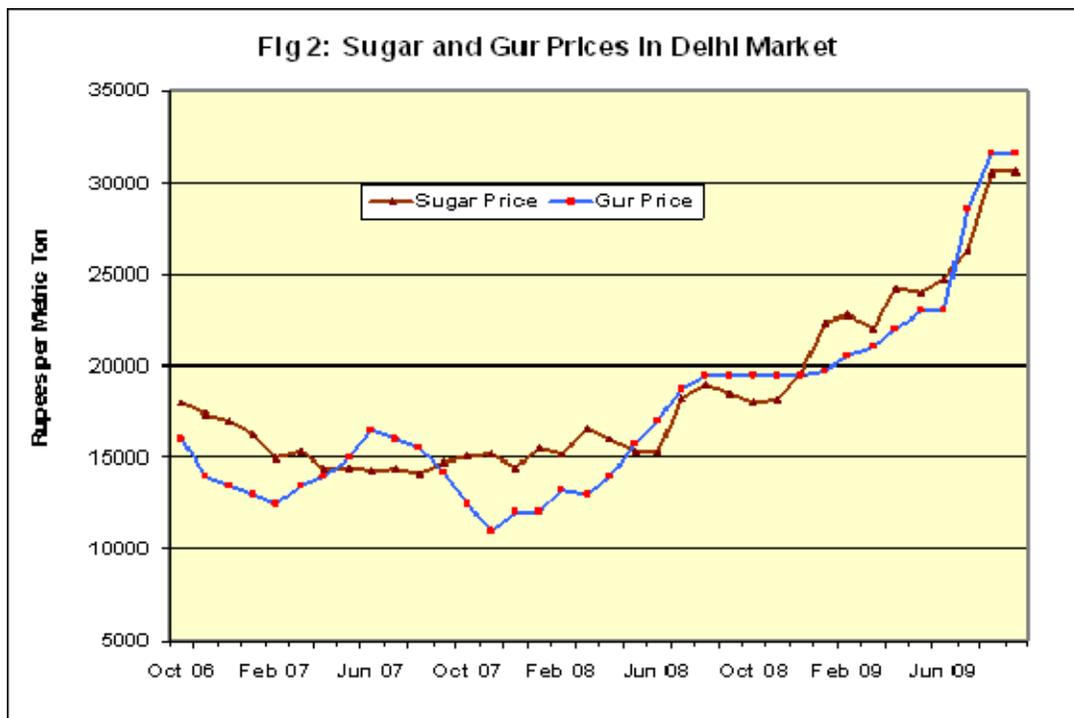
<sup>[7]</sup> In India, sugarcane has a production cycle of 2-3 years, i.e. cane planted in a marketing year is harvested in the next marketing year, followed by one or two additional retune crop in the next one to two years. About 60-70 percent of farmers take one retune crop and the other 30-40 percent take two retune crops).

<sup>[8]</sup> Cost of cultivation of the 'labor and irrigation intensive' sugarcane crop in India has been rising relative to other crops due to rising labor wages and power cost.

<sup>[9]</sup> Farmers plant sugarcane during March-May after the harvest of the rabi crop. The MSP for sugarcane for the 2009/10 was finally announced by the government on June 25, 2009 after the planting season was over.

### Prices Scale Record Levels

While sugar prices have been on the rise since November 2008, prices have flared up significantly since June 2009 due to the expected shortage of sugarcane and sugar for the upcoming 2009/10 season. 'Gur' prices have outpaced sugar prices, while both of them have scaled historical record levels.



Current sugar prices in the major domestic wholesale markets in India range from \$604 to \$638 per ton, about 66 percent higher than last year's level. Prices are expected to remain steady in the next few months due to recent government to keep sugar prices under control during the Indian festival season (September–October). However, sugar prices are expected to rise further from November as the market responds to tightening domestic supplies. Given the expected higher share of imported sugar to augment the domestic market, international sugar prices can temper future domestic price movements.

### Consumption

Despite relatively tight domestic supplies and expected strong prices, consumption estimate for 2009/10 is revised higher to 23.5 million tons on strong domestic demand.

<sup>[10]</sup> Based on the monthly sugar releases ordered by the government, 2009/09 consumption is raised to 24.2 million tons. In an effort to keep prices under control the government announced additional quantities of quota sugar for sale for the April-June and July quota periods. <sup>[11]</sup>

Sugar is one of the cheapest sources of energy for the growing Indian population. The demand is being further fueled by growing demand for processed food products (soft drinks, fruit drinks, dairy, confectionary, traditional sweets, etc). Bulk consumers such as bakeries, makers of candy and local sweets, and soft-drink manufacturer's account for about 60 percent of the milled sugar demand <sup>[12]</sup>. While the expected high sugar prices may not impact the demand for sugar at the household level, it may temper the demand and use of sugar by bulk consumers. Market sources report that overall consumption by both bulk and household consumers may be impacted if sugar retail prices cross Rs. 40 per kilogram level. Market sources expect continued strong demand for 'gur' in rural areas for household consumption and manufacturing of cheap country liquor.

### **Trade**

India emerged as a net sugar importer in 2008/09 due to the sharp shortfall in domestic sugar production, and will be a major importer in 2009/10. Due to forecast tight domestic supplies, forecast for 2009/10 imports has been revised higher to a record 6.0 million tons. Exports of sugar have come to a virtual halt since January 2009 and there are no prospects for any sugar exports in 2009/10.

Import estimates for 2008/09 are revised higher to 2.8 million tons based on shipment arrival figures compiled by industry sources. The bulk of imports are raw sugar (about 2.5 million tons by the end of September 2009) imported by Indian mills initially under the 'Advance Licensing Scheme' and later under open general license.

Most of the raw sugar is sourced from Brazil (2.47 million tons) as well as some small quantities from South Africa and U.A.E. Refined (white) sugar imports till September 2009 are estimated to reach 300,000 tons (278,000 tons crystal weight), mostly from Thailand, Brazil and U.A.E.

Industry sources report that the mills have already contracted for an additional 2.0 to 2.5 million tons of raw sugar for imports in the first quarter of 2009/10. In addition, traders have contracted for another 300,000 million tons of refined sugar.

<sup>[10]</sup> Sugar being an "essential commodity", demand for the growing population (about 1.8 percent per annum) and economy (6 percent in Indian fiscal year 2009/10) is relatively price inelastic.

<sup>[11]</sup> The central government administers the sale of sugar through periodic quotas to maintain price stability in the market. The government decides the amount of sugar to be released by the domestic sugar mills in the market for the period of three month. Further the government allocates the three month sugar quota to individual sugar mills determining the quantities to be sold by each mill during the specified quota period.

<sup>[12]</sup> Most bulk consumers use only cane sugar as India does not produce any significant quantity of high fructose corn syrup (HFCS). High import duty (30 percent basic duty) precludes imports of HFCS for commercial use.

With the current international prices of sugar relatively higher than domestic prices<sup>[13]</sup>, additional contracts for imports of sugar have slowed down considerably. However, import prospects are expected to improve from December 2009 onwards after ‘artificially’ suppressed domestic sugar prices rise on tight sugar supplies.

Assuming relatively stable international sugar prices, India’s imports during 2009/10 are forecast to reach a record 6.0 million tons, of which about 5.0 million tons will be raw sugar and 1.0 million tons will be refined sugar. The relative price movements in the domestic market vis-à-vis international may temper the overall import prospects in 2009/10.

### **Trade Policy**

The government has taken various steps to relax restrictions on imports of sugar to ameliorate the current sugar shortage. On February 17, 2009, the government relaxed the norms for duty free imports of raw sugar under the advance license scheme. This allowed local mills to import raw sugar, refine it, and then sell refined sugar in the domestic market, and meet the future export commitments for re-export of refined sugar when sugarcane and sugar supplies improve in the next two years.

On April 17, 2009, the government allowed mills to import raw sugar at zero duty under an open general license (OGL) until August 1, 2009. Thus, the mills can import raw sugar for refining and sale in the domestic market without any re-export obligations. Further, the government allowed select state trading entities (STEs) to import white sugar at zero duty up to an aggregate quantity of 1.0 million tons (crystal weight basis).

On July 31, 2009, the government extended the period for imports of raw sugar at zero duty under an OGL until April 1, 2010. The government also allowed imports of white sugar under an OGL by private trade up to an aggregate of 1.0 million tons until November 30, 2009. The importers have to register the contracts with Agricultural and Processed Foods Export Development Authority, with the 1.0 million tons allocation on first-sum-first serve basis. Given concerns on tight domestic supplies, the government is likely to extend the deadline for imports of raw sugar and white sugar under an OGL until the end of 2010, and may enhance the quota for imports of white sugar from the current 1.0 million tons limit.

### **Stocks**

Total 2009/10 ending stocks are forecast at 3.5 million tons compared to 3.7 million tons for 2008/09 ending stocks; both well below normal stock levels (three-month consumption requirement).

<sup>[13]</sup> Market sources report that the current landed cost raw sugar is \$525 to 540 per ton, which after accounting for the cost of transportation from port to mill and refining costs, will work out costlier than domestic sugar. Current landed cost of refined sugar at Indian port is in the range of \$610 to 640 per ton.

## **Thailand**

### **Production**

Sugar production for 2009/10 has been revised up to 7.7 million tons due to better-than-expected sugarcane production at 72 million tons due to average yield improvements following favorable weather conditions. Also, attractive farm-gate prices during the growing period resulted in more fertilizer usage, particularly in the northern and the central plains. Farm-gate prices will likely increase to a record 900 – 1,000 baht/ton (\$27-30/ton), driven by a surge in international sugar prices following anticipated reductions in global sugar production for the second consecutive year. Meanwhile, sugarcane production cost is expected to decline to 700 – 800 baht/ton (\$21-24/ton) due mainly to a reduction in fertilizer cost. This year's farm-gate prices will likely result in an acreage expansion of 2010/11 sugarcane crop.

Molasses production, a by-product of sugar, is expected to increase to 3.2 million tons in 2009/10. A steady decline in molasses prices is expected due to a recovery of domestic molasses production. Current molasses prices are 5,000 baht/ton (\$150/ton), as compared to an average of 2,300 baht/ton (\$70/ton) for the same period a year ago.

### **Consumption**

Despite continued increase in gasohol consumption (a mixture of regular gasoline and ethanol), 2009/10 sugarcane will be primarily used for sugar production due to attractive sugar prices. Presently, there are 16 ethanol plants with production capacity of 2.6 million liters/day. They are primarily molasses-based ethanol. Only one of them is sugarcane-based ethanol plant which came on line this year; however it is working at less than full capacity and should be operating at full capacity in 2012. This plant has a production capacity of 200,000 liters/day (30 million liters/year) with a daily milling volume of 5,000 tons of sugarcane that comes from contracted farming of 60,000 rai (9,600 hectares) in the northern region. Meanwhile, tapioca-based ethanol plants increased from one plant to five plants with a production capacity of 780,000 liters/day, accounting for approximately 30 percent of total ethanol production capacity. The increase in tapioca-based ethanol production is a result of lower production costs (21 baht/liter or \$63 cent/liter) as compared to current production costs of sugarcane/molasses-based ethanol (27 baht/liter or \$81 cent/liter) driven by record prices.

Domestic sugar prices are under upward pressure due to a sharp increase in international sugar prices. Sugar exports are becoming more attractive as export prices have increased to nearly \$600/ton (\$27 cent/lb) for delivery in March 2010, compared to current prices of \$310 – 350/ton (\$14-16 cent/lb). Meanwhile, current domestic sugar prices remained unchanged due to government price controls of 19 baht/kg (\$26 cent/lb) for white sugar, and 20 baht/kg (\$27 cent/lb) for refined sugar, ex-factory wholesale (excluding 7% Value Added Tax). The retail prices (include Value Added Tax) are set at 21.85 baht/kg (\$30 cent/lb) for white sugar, and 22.85 baht/kg (\$31 cent/lb) for refined sugar.

### **Trade**

Sugar exports for 2008/09 and 2009/10 have been revised up to a record 5 – 6 million tons due to tight sugar supplies of major producing countries, particularly in India. White and

refined sugar exports increased significantly in the first half of this year and are expected to continue for the remainder of 2009/10. Anticipated increase in white and refined sugar exports to India and other countries in the region are expected to offset a reduction in sugar exports (both raw sugar and refined sugar) to Indonesia due to a recovery in domestic production.

Sugar imports will remain marginal in 2009/10 in anticipation of bumper sugarcane crops. The government's import policy follows WTO commitments, which maintains a 65 percent tariff rate under a quota for 13,760 tons. Meanwhile, the out-of-quota tariff is 94 percent.

### **Stocks**

Sugar stocks for 2009/10 have revised down despite anticipated bumper crops. The stocks will likely continue to decline in anticipation of an increase in domestic consumption driven by economic recovery, and strong export demand.

### **Policy**

Sugarcane support prices for 2009/10 are expected to be at 900 – 1,000 baht/ton (\$27-30/ton), up significantly from the previous year level of 830 baht/ton (\$23/ton). The increase reflects a surge in international sugar prices driven by drought in major producing countries. Meanwhile, domestic sugar prices will likely remain unchanged due to government price controls from current levels set on May 1, 2008, however this is still higher than current export prices.

## **China**

Total Chinese centrifugal sugar output is forecast to decrease one percent to 13.2 million tons (raw value) in marketing year 2009/10. However, the total sugar forecast production is down nine percent from the original forecast due to dry conditions. Dry conditions in both the sugar cane and sugar beet production areas caused a reduction of seven percent and 39 percent, respectively, from the original 2009/10 forecast. Sugar cane acreage is forecast to decrease two percent due to the expansion of high value fruits and vegetables in regions close to urban markets. Due to the acreage reduction and drought damage to the yield, beet sugar production is forecast to drop 31 percent from the previous year.

Both beet and cane acreage declined in 2009/10 due to competition from other crops. Given the limited arable land in China, the sector now focuses more on yield improvement rather than relying on unrealistic acreage expansion. According to local agricultural departments, yield improvement is imperative for the sector because dominant varieties in major cane production regions have degraded over the past decade due to poor rotation practices.

### **Sugar Cane**

Sugar cane harvested area for 2009/10 is forecast at 1.71 million hectares (Ha), down two percent from 2008/09. Sugar cane area is estimated to account for 90 percent of the total sugar crop area in 2009/10. Guangxi remains the dominant sugar cane producing province, followed by Yunnan, Guangdong, and Hainan provinces. Guangxi's output is estimated to account for 61 percent of China's sugar production in 2008/09.

In 2009/10, the cane in Guangxi was adversely impacted by drought at different growth stages. During planting season, which normally lasts from November to March, a dry weather pattern delayed the planting or forced farmers to replant fields with other crops. For example, in some parts of the province, farmers shifted to relatively more drought resistant cassava. During the July-August period, which is a critical growth stage, rainfall was also inadequate. As a result, crop height in many parts of the region is about 10-20 centimeters lower than normal. According to local agricultural sources, this small crop could lead to a 20-40 percent decrease in yield (tons/ha). Irrigation is not an option because more than 90 percent of the cane is planted in hilly regions with no irrigation facilities.

In October, the drought situation was alleviated partially by typhoons, which brought some rainfall to most parts in the province but was too late to significantly rescue the yield. If more rainfall arrives in coming months, the yield will improve for some late maturing varieties. The plant density is estimated at 65,000 plants/ha, which is about 10 percent higher than 2008/09. In 2008/09, the reduced germination rate was caused by low temperatures and has resulted in a relatively lower planting density in 2009/10 as compared with a normal year. Though smaller in height, the higher plant density is estimated to partially compensate for the lower yield. The yield in 2009/10 is estimated to be slightly higher than the previous year as it was severely damaged by an unusual long period of low temperatures in January and February 2008 and then by excessive rainfall that summer.

As a pillar industry in the province and a major contributor for provincial revenue, sugar cane remains a stable source of income for Guangxi's farmers. As farmers in Guangxi do not own the sugar mills or have long term contracts, farmers have the freedom to plant the crop they deem most profitable. To encourage farmers to plant more, millers raised the purchase price for sugar cane between 2004 and 2007. In 2008/09 and 2009/10, the purchase price was unchanged because sugar prices declined due to record production in 2007/08. According to industry sources, most of the sugar sold in the first half of the 2008/09 was at a net loss for sugar mills because the market price at the time was lower than the average production cost. Due to a decline in sugar prices in 2008/09, the unchanged purchase price for cane squeezed the profit margin for sugar mills amid rising input prices.

In 2009/10, the price for inputs such as agricultural chemicals and fuels is estimated to be lower than the previous year but labor costs remain high. The cane is planted and harvested manually in China. Due to the small size of the land plots, mechanized planting or harvest is not practical for sugar cane production. In 2008, one large state farm in Guangxi started an experiment with mechanized harvesting by introducing an imported harvester. This experiment is partly in response to the increasing labor costs in the past several years. For instance, at prime harvest time, the labor cost for harvest could double from a normal rate of RMB 45/day due to labor shortage. The normal workload of one laborer for manually harvesting is one ton/day. Before harvest, to boost the yield, labor is also needed to manually peel off the cane leaves to reduce the damage of leaf borne disease and increase exposure to sunshine.

The unchanged purchase price and relatively high labor inputs combine to encourage some farmers turn to high-value subtropical fruit or vegetable production. In areas close to urban markets with convenient transportation or more flat land, cane farmers are beginning to contract their land for large scale production of bananas, papayas and vegetables. This type of production requires a relatively high investment in irrigation, but returns are higher. The shift is forecast to continue but most of the cane is produced in remote and poverty-stricken regions in China where other crops are not an option.

At the beginning of each marketing year, provincial governments in the southern sugar cane production regions announce a pre-set (floor) purchase price for cane. The pre-set purchase price is guidance for millers when they purchase cane from the farmers. If the sugar price increases during the marketing year, sugar mills usually pay their contracted cane farmers a bonus. In 2008/09, the average cane price in four major producing provinces was \$35.5/ton (RMB242/ton). In Guangxi province, the cane purchase price is estimated at \$39.7/ton (RMB 270/ton) in 2008/09, unchanged from the previous year.

In April, provincial government announced the pre-set purchase price for cane in 2009/10 at \$39.7/ton (RMB 270/ton), unchanged from the previous year. This price will guarantee a minimum profit for cane farmers. However, if mills anticipate a smaller crop and higher sugar price, they will voluntarily offer more assistance to cane farmers, such as offering discounted fertilizer or subsidy on machinery use for plowing before planting.

### **Sugar Beet**

Sugar beet area for 2009/10 is forecast at 185,000 hectares, down 25 percent from 2008/09. There is no government set purchase price for sugar beet, while grain and oilseed production is supported by government floor prices or purchase programs. When the sugar price fell in the beginning of 2008/09, mills lowered their purchase price for beet accordingly. This made sugar beets less attractive to farmers in 2009/10. Increased prices for agricultural inputs reduced the profit margin for both beet farmers and mills in 2008/09. Industry sources estimate that the price for agricultural chemicals and fuels rose by 20 percent in 2008/09, while the average sugar price in the first half of 2008/09 is 11 percent lower than the previous year. The beet yield in north China was also damaged by low temperatures at planting time and drought in summer. As a result, the total sugar beet output in 2009/10 is forecast to drop 30 percent from the previous year. According to industry sources, the lower forecast crop and relatively low profit margin will cause some sugar mills in Heilongjiang and Inner Mongolia to stop operations in 2009/10.

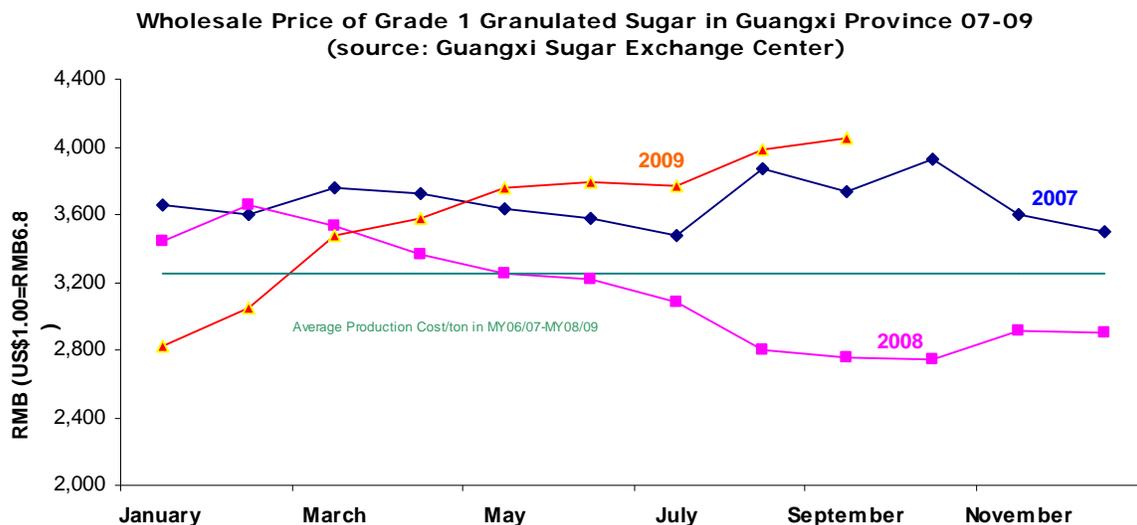
In Xinjiang province, the largest beet sugar producer in China, the beet price in 2008/09 averaged about \$46.3/ton (RMB315/ton). This is 28 percent higher than the previous year. In 2009/10, due to reduced profit margin for sugar, the mills lowered their purchase price for beets by 11 percent from the previous year.

### **Production**

Overall sugar output for 2009/10 is forecast to reach 13.2 million tons (raw value), one percent lower than 2008/09. Cane sugar output for 2009/10 is forecast at 12.5 million tons, one percent higher than 2008/09 due to an estimated one percent rise in cane yield.

Beet sugar output is forecast at 674 tons in 2009/10, 31 percent lower than 2008/09. The top five producing provinces are: Guangxi, Yunnan, Guangdong, Hainan and Xinjiang. Their output is estimated to account for 95 percent of national total sugar output in 2008/09. 2008/09 production is estimated at 13.3 million tons (raw value), 16 percent lower than the previous year due to a drop in both cane yield and sugar content level. According to industry contacts, most of the mills in Xinjiang and Heilongjiang Provinces started crushing season in October and cane sugar mills will start operation in November. According to industry sources, the normal length of the crushing season spans 120 days but a lower forecast crop will cause the crushing season to be shorter this year.

The average production cost for sugar in Guangxi was estimated at \$478/ton (RMB3,250/ton) in 2008/09, while it was \$471/ton (RMB3,200/ton) in 2007/08. Fuel and labor price rises are the major factors that boosted the production cost. Aside from the rise in inputs, the production cost has been relatively stable in recent marketing years due to the minor changes in pre-set purchase prices on cane.

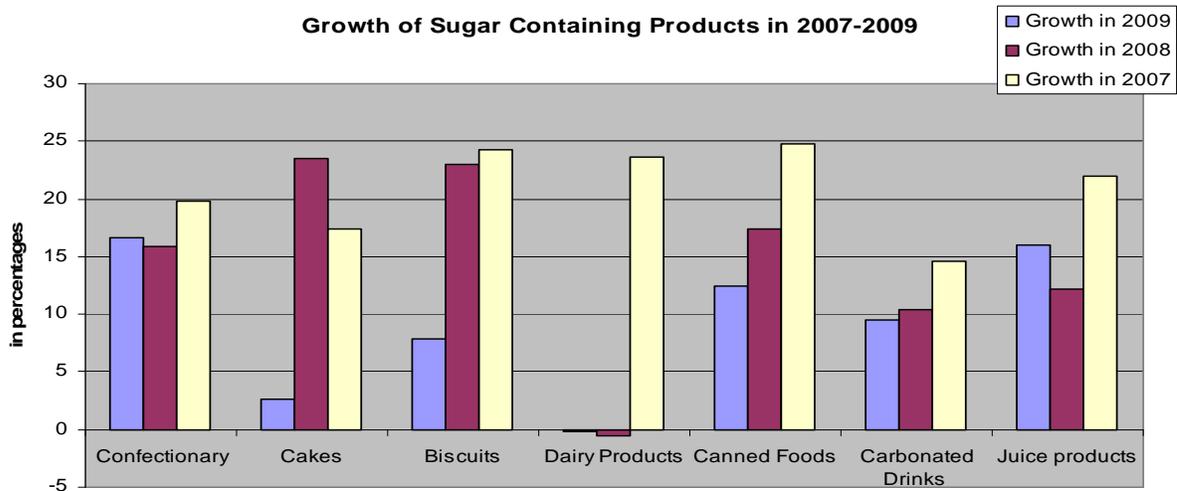


At both the central and provincial level, the government manages a reserve program to adjust the market price movement. The National Development and Reform Commission is the leading agency in making the decision on the scale of the program and the timing of the purchase and auction of sugar reserves. For example, in 2008/09, at the beginning of the crushing season, the sugar price fell below the production cost due to a high stock level and sluggish demand. As a result, in December 2008, the National Development & Reform Commission and People’s Bank of China jointly announced the plan to extend loans for the industry to purchase 2.8 million tons of refined sugar from the market to store as a temporary industrial reserve. The loan lasted six months and helped alleviate the sector’s need to pay cane farmers and maintain smooth production operations.

In addition to the industrial reserve program, the Ministries of Commerce and Finance and the National Development & Reform Commission jointly published a plan in January 2009 to purchase 800,000 tons of white sugar for the national sugar reserve. The purchase price is fixed at \$485/ton (RMB 3,300/ton), in reference to wholesale sugar price in Guangxi, and there is no closing date for the purchase program. Industry sources estimate that the actual amount purchased was about 650,000 tons in 2008/09 because the announcement of the program substantially boosted the market price since January and the current market price is higher than the government purchase price. All these state sugar reserves will be auctioned at a time when market supplies start to run short.

### Consumption

Sugar consumption for 2009/10 is forecast at 14.8 million tons (raw value), four percent higher than 2008/09. Total per capita natural sugar consumption in 2008/09 is estimated at about 11 Kg (raw value). The food processing, beverage, and pharmaceutical industries are the largest consumers of sugar, while household table sugar consumption is declining and accounts for a relatively small portion of the total. Official data shows that rural per capita table sugar consumption reached 1.07 Kg in 2007, down slightly from 1.09 Kg in 2006. Though the government stopped releasing data on urban per capita sugar consumption in 2001, we estimate that it also dropped slightly in recent years. Growth in sugar consumption is mostly attributed to the rapidly growing processed food and beverage sectors and catering services. However, the sector's development in 2008/09 is estimated to be slower than the previous year due to the overall economic slowdown and some food safety scandals. For instance, due to melamine contamination, dairy products production in 2008 dropped by 0.5 percent from the previous year, though its growth averaged more than 20 percent a year prior to 2008. The dairy processing sector is an important user of sugar.



Source: China National Statistical Bureau

A recent survey by National Statistical Bureau showed that dairy product production in the first eight months in 2009 dropped only 0.1 percent from the previous year, indicating a slight for the sector may be in sight.

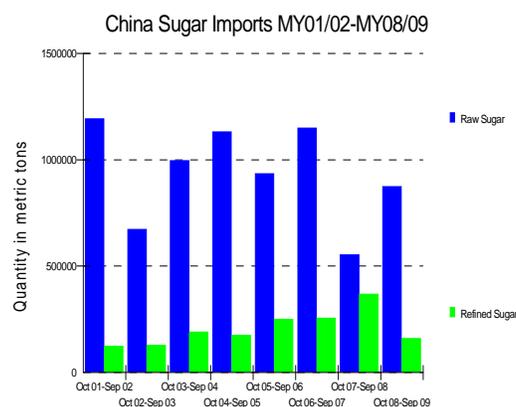
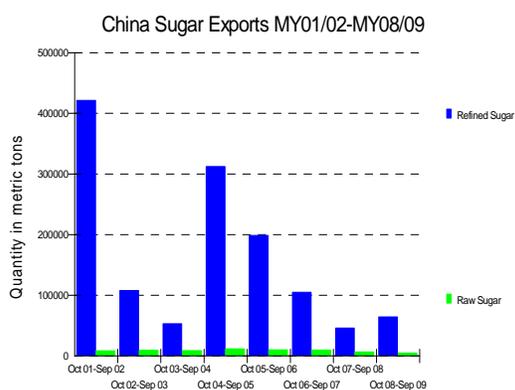
Starch sweeteners are often used in beverage, confectionary, and bakery production as a substitute for sugar. In the beginning of 2008/09, because of a bumper crop, the average corn price dropped by five percent and starch sweeteners became competitive versus cane and beet sugar. During the marketing year, sugar use in the food processing and beverage sector is periodically substituted by starch sweeteners when a favorable price appears for corn.

### **Trade**

Imports for 2009/10 are forecast at 900,000 tons, 170,000 tons lower than the estimate for 2008/09. The current landed price for imported raw sugar is about 35 percent higher than domestic sugar. Imports usually start to arrive in China after the crushing season ends and the domestic price starts to increase. The TRQ for CY 2009 is 1.95 million tons, with an in-quota-tariff of 15 percent. The 2009 out-of-quota tariff rate is 50 percent. The amounts of the quota and the tariff rate have been unchanged since 2005 and will remain the same in the coming years in line with China's World Trade Organization (WTO) obligations.

China's sugar imports have averaged about 1.0 million tons in recent years. As stipulated in China's WTO accession agreement, 30 percent of the TRQ (585,000 tons) is reserved for non-state trading enterprises and the remaining 70 percent is assigned to state trading enterprises. Each year, China imports about 450,000 tons of raw sugar (state trade) from Cuba under a longstanding bilateral agreement signed in 1950's.

Regarding the 30 percent of the TRQ (585,000) for non-state trading enterprises, trade sources report that the allocation of amounts they receive in most cases is not commercially viable for a Panamax vessel shipment. Trade sources complain that this practice has functioned to discourage the use of the TRQ. Only when a substantial price difference appears between Chinese and international markets do the private traders start to consider imports. For state trading, NDRC decides on the use of state TRQ, the decision will be based on NDRC's evaluation of the domestic market situation in terms of supply and prices movement.



## Stocks

Ending stocks for 2009/10 are forecast at 2.05 million tons (raw value). Ending stocks for 2008/09 are estimated at 3.5 million tons (raw value), 1.4 million tons lower than the previous year. Stocks include state reserves and those held by the industrial, commercial, and distribution sectors. Industry sources estimate that the state sugar reserve held by the government totaled about 2.0 million tons in 2008/09. Generally, these stocks are considered to be adequate.

Except for a marketing year with a short domestic crop, imported Cuban sugar normally enters state reserves first. Near the end of each marketing year, in an effort to dampen wide market price swings, the government then decides on the timing and the volume of stocks to be auctioned. Under normal storage conditions, raw sugar could be stored for up to five years while refined sugar can be stored for up to 15 months and still meet Chinese sanitary requirements.

## Contact

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**202-720-4620**

**World Centrifugal Sugar Production, Supply and Distribution - (Oct/Sept Marketing Year)**  
**1,000 Metric Tons, Raw Value**

Country Mktg Year	Beginning Stocks	Total Sugar Production	Total Imports	Total Supply	Total Exports	Total Use	Ending Stocks
<b>SUG - North America</b>							
<b>Canada</b>							
2007/08	107	126	1,416	1,649	77	1,465	107
2008/09	107	87	1,444	1,638	38	1,500	100
2009/10	100	100	1,450	1,650	42	1,454	154
<b>Mexico</b>							
2007/08	1,718	5,852	226	7,796	677	5,144	1,975
2008/09	1,975	5,260	215	7,450	1,270	5,540	640
2009/10	640	5,400	710	6,750	690	5,300	760
<b>United States</b>							
2007/08	1,632	7,396	2,377	11,405	184	9,715	1,506
2008/09	1,506	6,789	2,796	11,091	124	9,650	1,317
2009/10	1,317	6,998	2,200	10,515	181	9,412	922
<b>Total SUG - North America</b>							
2007/08	3,457	13,374	4,019	20,850	938	16,324	3,588
2008/09	3,588	12,136	4,455	20,179	1,432	16,690	2,057
2009/10	2,057	12,498	4,360	18,915	913	16,166	1,836
<b>SUG - Caribbean</b>							
<b>Cuba</b>							
2007/08	150	1,420	210	1,780	1,025	710	45
2008/09	45	1,250	200	1,495	730	710	55
2009/10	55	1,250	290	1,595	800	710	85
<b>Dominican Republic</b>							
2007/08	47	500	40	587	217	335	35
2008/09	35	520	40	595	217	338	40
2009/10	40	525	20	585	217	338	30
<b>Other SUG - Caribbean</b>							
2007/08	117	218	429	764	162	469	133
2008/09	133	215	426	774	172	465	137
2009/10	137	185	423	745	142	466	137
<b>Total SUG - Caribbean</b>							
2007/08	314	2,138	679	3,131	1,404	1,514	213
2008/09	213	1,985	666	2,864	1,119	1,513	232
2009/10	232	1,960	733	2,925	1,159	1,514	252
<b>SUG - Central America</b>							
<b>Guatemala</b>							
2007/08	410	2,274	0	2,684	1,333	742	609
2008/09	609	2,247	0	2,856	1,490	744	622
2009/10	622	2,250	0	2,872	1,515	745	612
<b>Other SUG - Central America</b>							
2007/08	447	2,078	2	2,527	756	1,164	607
2008/09	607	2,041	2	2,650	811	1,147	692
2009/10	692	2,076	11	2,779	900	1,173	706
<b>Total SUG - Central America</b>							
2007/08	857	4,352	2	5,211	2,089	1,906	1,216
2008/09	1,216	4,288	2	5,506	2,301	1,891	1,314
2009/10	1,314	4,326	11	5,651	2,415	1,918	1,318
<b>SUG - South America</b>							
<b>Brazil</b>							
2007/08	-485	31,600	0	31,115	19,500	11,400	215
2008/09	215	31,850	0	32,065	21,550	11,650	-1,135
2009/10	-1,135	35,750	0	34,615	23,850	11,800	-1,035

**World Centrifugal Sugar Production, Supply and Distribution - (Oct/Sept Marketing Year) (Continued)**  
**1,000 Metric Tons, Raw Value**

<b>Country Mktg Year</b>	<b>Beginning Stocks</b>	<b>Total Sugar Production</b>	<b>Total Imports</b>	<b>Total Supply</b>	<b>Total Exports</b>	<b>Total Use</b>	<b>Ending Stocks</b>
<b>Colombia</b>							
2007/08	98	2,245	103	2,446	661	1,615	170
2008/09	170	2,050	120	2,340	630	1,585	125
2009/10	125	2,575	110	2,810	1,035	1,605	170
<b>Argentina</b>							
2007/08	53	2,190	10	2,253	343	1,805	105
2008/09	105	2,420	26	2,551	585	1,750	216
2009/10	216	2,250	4	2,470	600	1,720	150
<b>Other SUG - South America</b>							
2007/08	1,401	3,082	1,375	5,858	455	3,748	1,655
2008/09	1,655	3,256	1,459	6,370	490	4,103	1,777
2009/10	1,777	3,255	1,279	6,311	567	4,093	1,651
<b>Total SUG - South America</b>							
2007/08	1,067	39,117	1,488	41,672	20,959	18,568	2,145
2008/09	2,145	39,576	1,605	43,326	23,255	19,088	983
2009/10	983	43,830	1,393	46,206	26,052	19,218	936
<b>SUG - Western Europe</b>							
<b>EU-27</b>							
2007/08	2,720	15,614	2,948	21,282	1,656	16,496	3,130
2008/09	3,130	13,570	3,250	19,950	1,105	16,670	2,175
2009/10	2,175	15,485	3,500	21,160	1,475	16,500	3,185
<b>Other SUG - Western Europe</b>							
2007/08	350	270	410	1,030	80	703	247
2008/09	247	275	391	913	50	678	185
2009/10	185	270	391	846	50	648	148
<b>Total SUG - Western Europe</b>							
2007/08	3,070	15,884	3,358	22,312	1,736	17,199	3,377
2008/09	3,377	13,845	3,641	20,863	1,155	17,348	2,360
2009/10	2,360	15,755	3,891	22,006	1,525	17,148	3,333
<b>SUG - Eastern Europe</b>							
<b>Russia</b>							
2007/08	440	3,200	3,100	6,740	200	5,990	550
2008/09	550	3,480	2,800	6,830	200	5,880	750
2009/10	750	3,350	2,400	6,500	200	5,850	450
<b>Ukraine</b>							
2007/08	785	2,020	76	2,881	1	2,300	580
2008/09	580	1,710	100	2,390	40	2,100	250
2009/10	250	1,625	275	2,150	50	1,900	200
<b>Other SUG - Eastern Europe</b>							
2007/08	548	1,386	1,282	3,216	1,041	1,635	540
2008/09	540	1,376	1,442	3,358	1,278	1,650	430
2009/10	430	1,311	1,378	3,119	964	1,661	494
<b>Total SUG - Eastern Europe</b>							
2007/08	1,773	6,606	4,458	12,837	1,242	9,925	1,670
2008/09	1,670	6,566	4,342	12,578	1,518	9,630	1,430
2009/10	1,430	6,286	4,053	11,769	1,214	9,411	1,144
<b>SUG - Africa</b>							
<b>South Africa</b>							
2007/08	446	2,360	165	2,971	1,154	1,590	227
2008/09	227	2,350	175	2,752	1,000	1,655	97
2009/10	97	2,380	200	2,677	900	1,685	92
<b>Other SUG - Africa</b>							
2007/08	2,607	5,852	6,651	15,110	2,573	10,271	2,266

**World Centrifugal Sugar Production, Supply and Distribution - (Oct/Sept Marketing Year) (Continued)**  
**1,000 Metric Tons, Raw Value**

Country Mktg Year	Beginning Stocks	Total Sugar Production	Total Imports	Total Supply	Total Exports	Total Use	Ending Stocks
2008/09	2,266	5,894	6,925	15,085	2,434	10,367	2,284
2009/10	2,284	6,271	6,904	15,459	2,682	10,492	2,285
<b>Total SUG - Africa</b>							
2007/08	3,053	8,212	6,816	18,081	3,727	11,861	2,493
2008/09	2,493	8,244	7,100	17,837	3,434	12,022	2,381
2009/10	2,381	8,651	7,104	18,136	3,582	12,177	2,377
<b>SUG - MiddleEast</b>							
<b>Turkey</b>							
2007/08	710	1,700	5	2,415	10	2,000	405
2008/09	405	2,100	5	2,510	5	2,000	505
2009/10	505	2,100	5	2,610	10	2,000	600
<b>Egypt</b>							
2007/08	383	1,511	1,390	3,284	50	2,690	544
2008/09	544	1,612	1,410	3,566	100	2,720	746
2009/10	746	1,750	1,410	3,906	250	2,720	936
<b>Other SUG - MiddleEast</b>							
2007/08	3,233	1,306	8,438	12,977	3,125	6,680	3,172
2008/09	3,172	705	7,602	11,479	2,982	6,559	1,938
2009/10	1,938	1,465	7,578	10,981	2,996	6,551	1,434
<b>Total SUG - MiddleEast</b>							
2007/08	4,326	4,517	9,833	18,676	3,185	11,370	4,121
2008/09	4,121	4,417	9,017	17,555	3,087	11,279	3,189
2009/10	3,189	5,315	8,993	17,497	3,256	11,271	2,970
<b>SUG - Asia - Oceania</b>							
<b>Japan</b>							
2007/08	372	921	1,372	2,665	2	2,326	337
2008/09	337	912	1,450	2,699	2	2,283	414
2009/10	414	939	1,313	2,666	0	2,220	446
<b>India</b>							
2007/08	9,850	28,630	0	38,480	5,830	23,500	9,150
2008/09	9,150	16,130	2,800	28,080	190	24,200	3,690
2009/10	3,690	17,300	6,000	26,990	10	23,500	3,480
<b>China</b>							
2007/08	1,401	15,898	972	18,271	56	14,250	3,965
2008/09	3,965	13,317	1,077	18,359	75	14,820	3,464
2009/10	3,464	13,161	900	17,525	65	15,413	2,047
<b>Thailand</b>							
2007/08	1,745	7,820	0	9,565	4,914	2,000	2,651
2008/09	2,651	7,200	0	9,851	5,500	2,000	2,351
2009/10	2,351	7,700	0	10,051	5,800	2,100	2,151
<b>Australia</b>							
2007/08	402	4,939	9	5,350	3,700	1,250	400
2008/09	400	4,814	9	5,223	3,522	1,250	451
2009/10	451	4,900	9	5,360	3,700	1,250	410
<b>Pakistan</b>							
2007/08	1,060	4,163	110	5,333	70	4,100	1,163
2008/09	1,163	3,512	125	4,800	75	4,175	550
2009/10	550	3,520	800	4,870	70	4,250	550
<b>Indonesia</b>							
2007/08	570	1,900	2,420	4,890	0	4,400	490
2008/09	490	2,680	1,570	4,740	0	4,400	340
2009/10	340	2,960	1,500	4,800	0	4,400	400
<b>Philippines</b>							
2007/08	262	2,455	0	2,717	240	1,930	547

**World Centrifugal Sugar Production, Supply and Distribution - (Oct/Sept Marketing Year) (Continued)**  
**1,000 Metric Tons, Raw Value**

Country Mktg Year	Beginning Stocks	Total Sugar Production	Total Imports	Total Supply	Total Exports	Total Use	Ending Stocks
2008/09	547	2,100	0	2,647	225	2,100	322
2009/10	322	2,200	0	2,522	160	2,150	212
<b>Other SUG - Asia - Oceania</b>							
2007/08	2,190	2,371	8,848	13,409	1,341	9,818	2,250
2008/09	2,250	2,059	8,709	13,018	1,290	9,686	2,042
2009/10	2,042	2,226	8,861	13,129	1,356	9,633	2,140
<b>Total SUG - Asia - Oceania</b>							
2007/08	17,852	69,097	13,731	100,680	16,153	63,574	20,953
2008/09	20,953	52,724	15,740	89,417	10,879	64,914	13,624
2009/10	13,624	54,906	19,383	87,913	11,161	64,916	11,836
<b>World</b>							
<b>World</b>							
2007/08	35,769	163,297	44,384	243,450	51,433	152,241	39,776
2008/09	39,776	143,781	46,568	230,125	48,180	154,375	27,570
2009/10	27,570	153,527	49,921	231,018	51,277	153,739	26,002
<b>Unrecorded</b>							
2007/08				7,049			
2008/09				1,612			
2009/10				1,356			

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Footnotes

- 1/ The U.S. PS&D estimates conform to those released in the World Agricultural Supply and Demand Estimates (WASDE) 'miscellaneous' category allocated to domestic consumption. The U.S. PS&D includes Puerto Rico.
- 2/ The European Union (EU) includes French Overseas Departments of Reunion, Guadeloupe, and Martinique. EU trade data does not include intra-EU trade. Beginning 2004/05 the PS&D reflects the EU enlargement by accession of the following ten countries. Latvia, Lithuania, Estonia, Poland, Hungary, Czech Republic, Slovakia, Slovenia, Malta, and Cyprus. As a result of this enlargement, from 15 countries to 25 countries, the ending stock figure for 2003/04 will not carry over to the beginning stock figure for 2004/05. Data prior to 2004/05 reflects the countries comprising the EU at that time. The PSD for the EU-25 ends with marketing year 2005/06. The series picks up with the EU-27 beginning marketing year 2006/07. The EU-27 contains two new countries Bulgaria and Romania.
- 3/ Includes traditional Eastern European countries, Hungary, Czech Republic, Slovakia, Balkans, Baltic's, Armenia, and Georgia. Beginning 2004/05 the following countries are removed from this list upon their accession to the EU: Latvia, Lithuania, Estonia, Poland, Hungary, Slovakia, and Slovenia. Note that data for Poland is zeroed out for 2004/05 because it is included in the European Union.
- 4/ Includes all of continental Africa except Egypt.
- 5/ Includes Bahrain, Kuwait, Oman, Qatar, and the United Arab Emirates.
- 6/ Indian data includes production of khandsari sugar, a native type, semi-white centrifugal sugar. Estimated output of Khandsari sugar in thousand of metric tons (raw value equivalent) is as follows: 2001/02 - 714; 2002/03 - 590; 2003/04 - 620; 2004/05 - 683; 2005/06 - 683; 2006/07 - 500; 2007/08 - 425; 2008/09 - 435; 2009/10 - 404
- 7/ Includes Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.
- 8/ The 'Unrecorded' category is a balancing mechanism to equalize world exports and imports. It is assumed there is a certain quantity of trade that will not be recorded, with the result that imports and exports will differ by a certain amount.

To view country crop years click on the following URL:  
<http://www.fas.usda.gov/htp/sugar/tmarketingyears.pdf>