



International Sugar Organization

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ISO STUDY - MECAS(10)05

Market Evaluation Consumption and Statistics Committee

www.isosugar.org

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GM Beet and Cane: Prospects in a New Market Environment

Genetic modification is now a mature and widely applied technology and allows selected individual genes to be transferred from one organism into another, also between non-related species. This technology, primarily championed by large multinational companies based in the United States and Europe, has led to the commercial release of genetically modified (GM) crop plant species, such as genetically modified maize, soybean, oil-seed rape, cotton varieties and also one sugarbeet variety. These GM crops have special characteristics, such as: resistance to herbicides, pests and diseases; improved yields; and enhanced quality. Farmers in 25 countries planted 134 mln hectares of GM crops in 2009, an increase of 7% over the 2008 level.

Only the United States and Canada have commercialised GM sugar crops – Roundup Ready sugarbeet. GM sugarbeet achieved a remarkable 95% adoption in these 2 countries in 2009, in only its third year of commercialization. This made it the fastest adopted GM crop globally, to-date. In Europe, transgenic beet awaits approval for commercial planting. Roundup Ready sugarbeets are just the beginning of biotechnology in the sugarbeet industry. Many more traits will likely be introduced, possibly disease resistance, insect resistance, nematode resistance, higher sucrose content, drought tolerance and cold tolerance, amongst others. Several key cane sugar producing and exporting countries have embraced gene transfer technology to varying extents, but commercial varieties remain at least 3-5 years away. Both the beet sugar and cane sugar industries perceive that access to genetically modified varieties will be essential to improving productivity and lowering their costs of production. Even so it remains crucial to convince consumers in some countries that sugar from transgenic sugar crops is the same as sugar produced from conventional varieties and that there are no negative impacts for the environment from widespread cultivation of GM beet and cane crops.

This paper identifies and assesses the key issues surrounding transgenic sugar crops from a producer and consumer perspective. The key factors impacting the potential for further commercialisation of GM beet and cane in major sugar producing countries, not only for sugar production but for energy production and alternative products such as bioplastics are examined. The need for an industry wide proactive strategy to facilitate the introduction of GM sugar crops is highlighted.



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World Trade in Raw and White Sugar – Recent Trends and Prospects

Since the beginning of the current decade, the volume of sugar traded internationally has grown from less than 40 mln tonnes, to 52.4 mln tonnes, raw value, projected for 2009/10. The expansion of raw sugar trade has been particularly significant. Indeed, increases in raw sugar turnover have been responsible for nearly 75% of the overall growth in sugar trade during the current decade. The October/September sugar trade statistics, estimates and forecasts published in the ISO Quarterly Market Outlooks until now show only the overall world and country totals. Clearly, separated trade balances for white and raw sugar markets would allow a more thorough analysis of the market situation. In the new study, using a comprehensive database of white and raw sugar imports and exports on the October/September basis the ISO re-examines long-term trends of white and raw sugar trade, which have been identified in a number of previous ISO studies. Special attention has been paid to those trends which are likely to continue in the near future. The projection for the trade balance for two market segments in for 2009/10 has been also prepared. *Starting from May 2010, the ISO will release quarterly its projections for white/raw sugar trade balances as a permanent feature of the Quarterly Market Outlook.* In the Statistical Appendix world exports and imports of raw and white sugar, including data for about 175 countries and territories for the period from 1999/00 to 2009/10, are shown.



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Central American/Caribbean Sugar and Ethanol Prospects

The Central America and Caribbean (CAC) region, which comprises 8 countries in continental Central America and 10 countries in the Caribbean Sea, is the world's second largest net sugar exporting region after South America. This study is the first ISO paper dedicated to the CAC region and provides an overview of key developments in the regional sugar and ethanol markets, aiming at a better understanding of their potential impact on production and future export availability. The region has several of the world's top raw sugar exporters as well as fast rising producers and exporters like Guatemala, El Salvador and Nicaragua. The main drivers of the short to medium term growth of the regional industry are the integration of the Mexican and the US sweeteners markets under NAFTA, as well as a vast array of sugar and ethanol preferential trade agreements with the US – under the TRQ, the CBI and DR-CAFTA schemes- and the European Union under the recently launched EPAs. Of interest, over the past decade, the share of CAC's exports going to preferential markets has increased significantly. Over 65% of the region's sugar exports currently go to preferential markets. Developments in the region suggest that production expansion will continue over the coming years, at least in a number of key countries in continental Central America. The smaller Caribbean producers, particularly those in the ACP group, are likely to streamline sugar production and continue to export almost exclusively to the EU or focus on ethanol dehydration activities. Indeed, the CAC region is a large player in the fledgling world trade of fuel ethanol, with a 25% share in global exports achieved through the dehydration of imported ethanol and re-exports to the United States. CAC is very diverse in sugar terms, with a very distinct set of industry characteristics, policy framework, sugarcane farming and pricing structure, sugar trade arrangements, ethanol opportunities as well as future expansion prospects. In addition to assessing the main general drivers, this paper presents an in-depth analysis of the industries of the largest sugar economies in the region: Mexico, Guatemala, Cuba, El Salvador, Dominican Republic and Nicaragua. Future sugar consumption for CAC is estimated to rise only modestly at 0.7% a year to 2020, given already saturated per capita consumption levels and the prospects for greater penetration of HFCS into Mexico's market. As a result, sugar export availability from the region could double over the next ten years to over 7 mln tonnes. Last but not least, developments in cogeneration are also assessed – it is becoming an increasingly attractive option for several countries, already providing up to 25% of demand for electricity in Guatemala.



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