



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# Mexican Sugar Policy



Adriana Herrera  
USDA Agricultural Outlook Forum 2013  
February 22, 2013

# Background

---

- Changing market conditions:
  - ❖ Price volatility in agricultural markets
  - ❖ Biofuels: linkages between food and energy markets
- Production and Trade:
  - ❖ National Program of Sugarcane Agro-industry (PRONAC)
  - ❖ North American Free Trade Agreement (NAFTA)
  - ❖ Trade agreements: Central American countries and Trans Pacific Partnership (TTP)
- New institutional framework:
  - ❖ Sugarcane Rural Development Sustainable Law (2005)
  - ❖ Sugarcane National Committee for Sustainable Rural Development (CONADESUCA) (2008)

# Mexico: World 7th largest producer and exporter

**Production**  
World Centrifugal Sugar  
1,000 Metric Tons, Raw Value

	2008/09	2012/13	CAGR (%)
Brazil	31,850	37,500	4.2
India	15,950	25,630	12.6
EU-27	14,014	16,390	4.0
China	13,317	14,580	2.3
Thailand	7,200	9,930	8.4
U.S.	6,833	8,006	4.0
<b>Mexico</b>	<b>5,260</b>	<b>6,008</b>	<b>3.4</b>
Russia	3,481	4,850	8.6
Pakistan	3,512	4,670	7.4
Australia	4,814	4,300	-2.8
Other	37,657	40,446	1.8
<b>Total</b>	<b>143,888</b>	<b>172,310</b>	<b>4.6</b>

**Exports**  
World Centrifugal Sugar  
1,000 Metric Tons, Raw Value

	2008/09	2012/13	CAGR (%)
Brazil	21,550	25,000	3.8
Thailand	5,295	7,500	9.1
Australia	3,522	3,100	-3.1
India	224	2,200	77.0
Guatemala	1,654	1,725	1.1
EU-27	1,332	1,500	3.0
<b>Mexico</b>	<b>1,378</b>	<b>1,372</b>	<b>-0.1</b>
Colombia	584	875	10.6
Russia	200	300	10.7
Pakistan	75	300	41.4
Other	11,150	11,872	1.6
<b>Total</b>	<b>46,689</b>	<b>55,144</b>	<b>4.2</b>

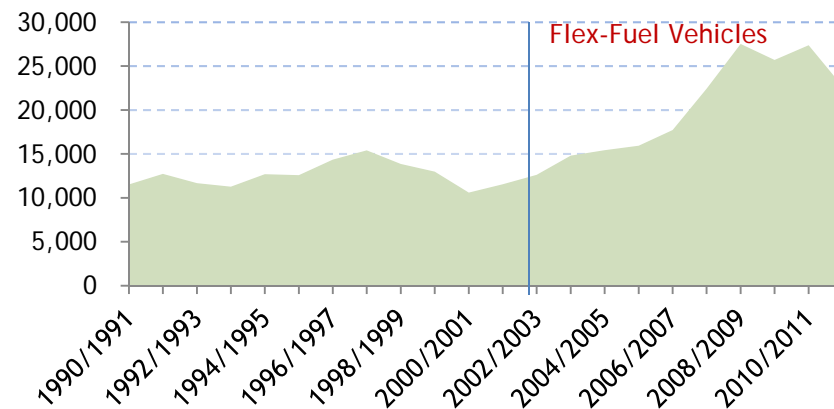
Source: Sugar: World Market and Trade, FAS/USDA, November 2012. CAGR: Compound Annual Growth Rate.

# Sugar world exports

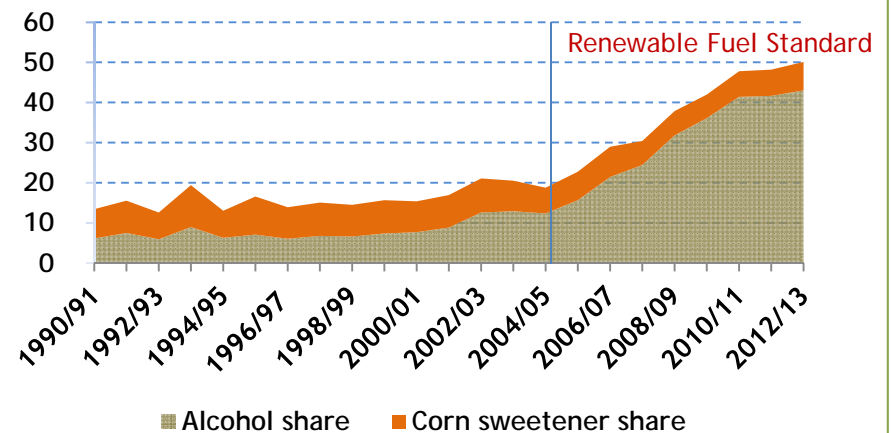
**Sugar Exports**  
Annual Change (%)

(%)	Brazil	EU-27	India	Mexico	World
2009/10	12.8	98.7	0.4	-45.5	8.4
2010/11	6.2	-58.0	1,634.7	107.5	9.8
2011/12	-4.5	114.6	-10.4	-36.8	1.0
2012/13	1.4	-37.2	-37.1	39.3	-1.8

Brasil: Ethanol Production (million liters)



U.S. Corn Use (%)

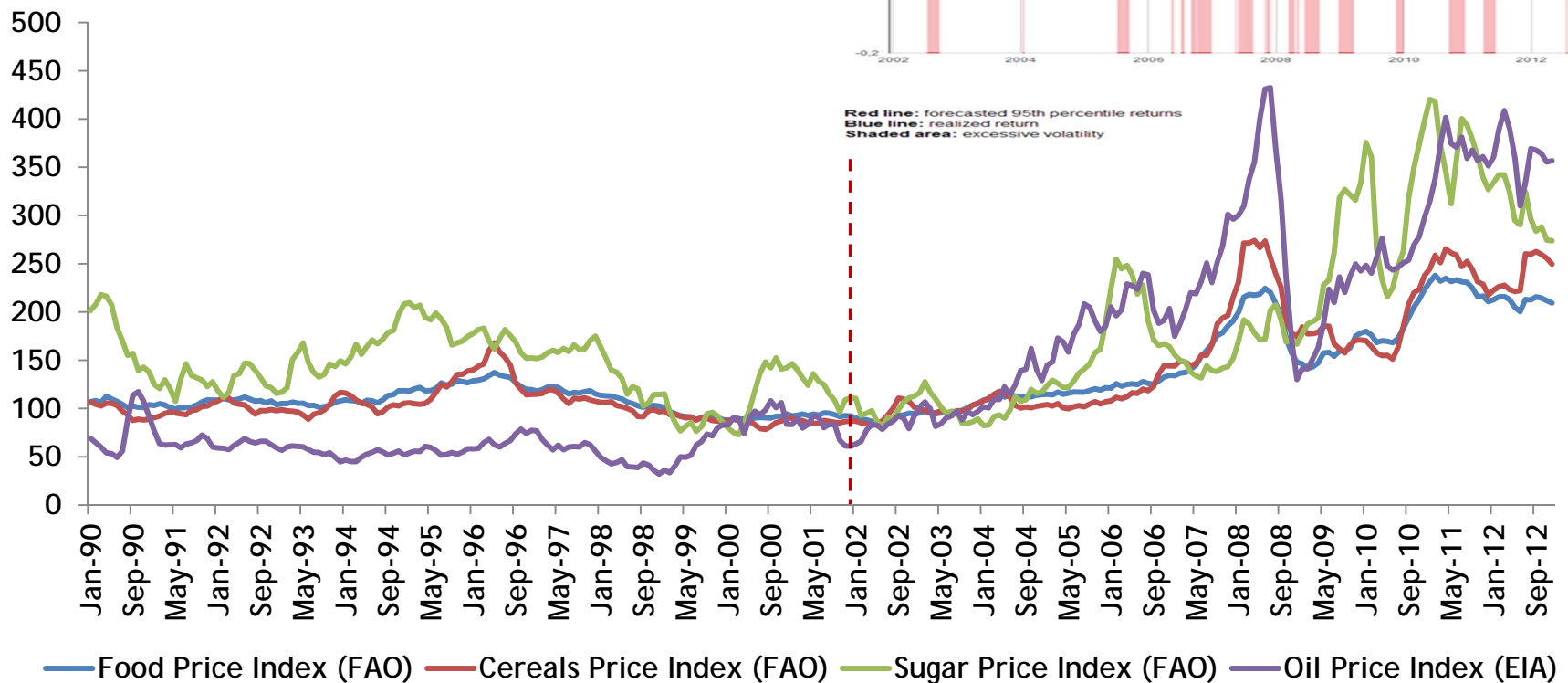


- ❖ New technologies and biofuel mandates
- ❖ Climate conditions
- ❖ Consumption in emerging countries

Sources: USDA (World exports), UNICA (Brazilian Production) and USDA (U.S. Corn Use).

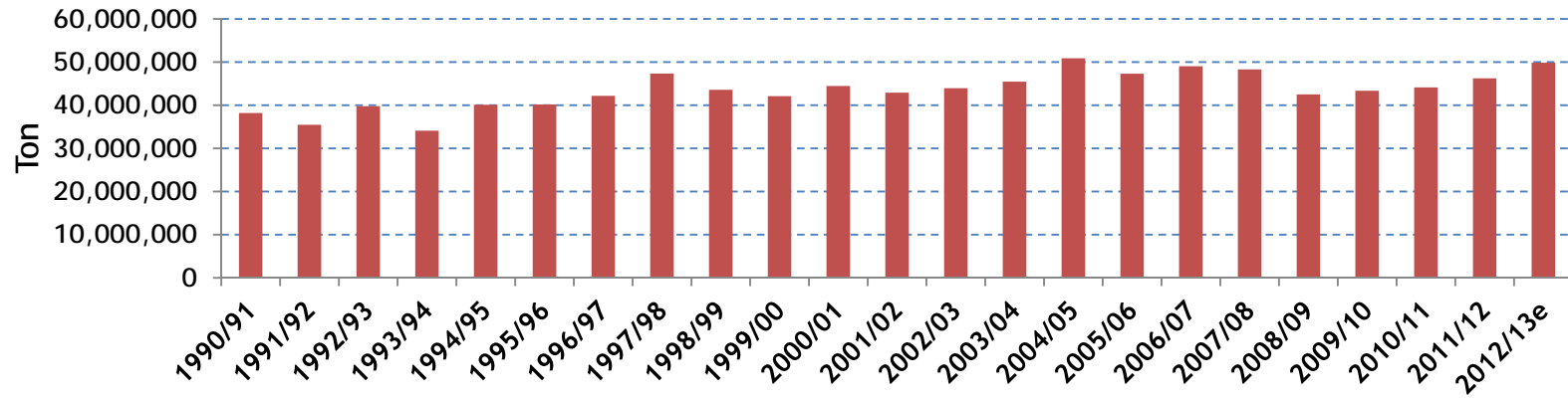
# Food and oil price index (2002-2004 = 100)

❖ Increasing price volatility in commodity markets

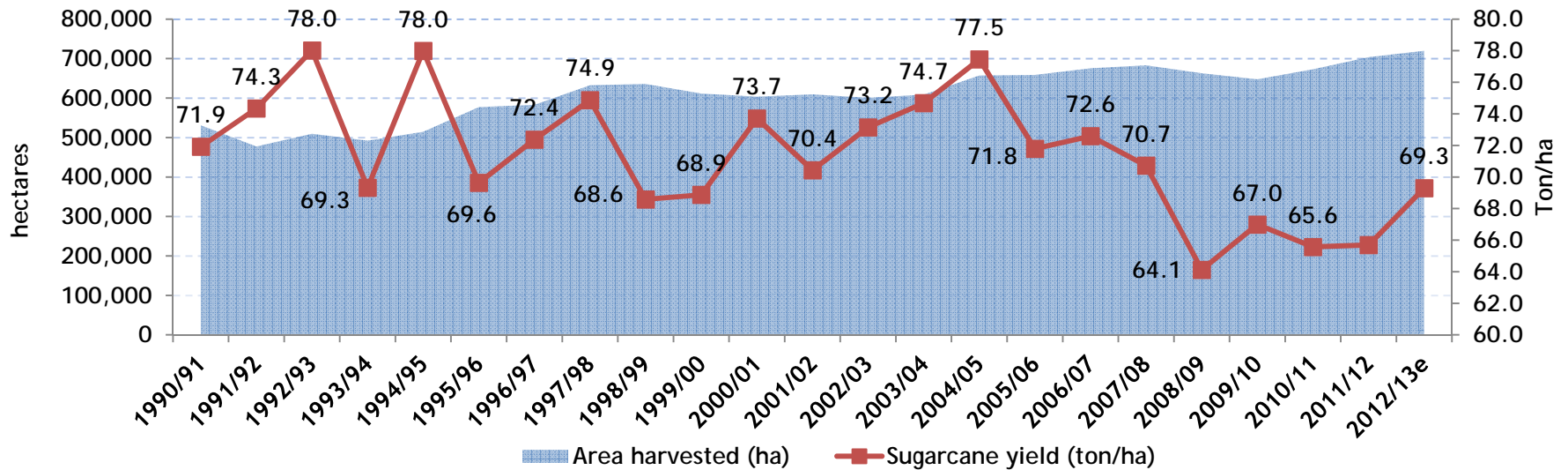


# Mexico: Sugarcane production

Sugarcane production 1990/91 - 2012/13<sup>e</sup>

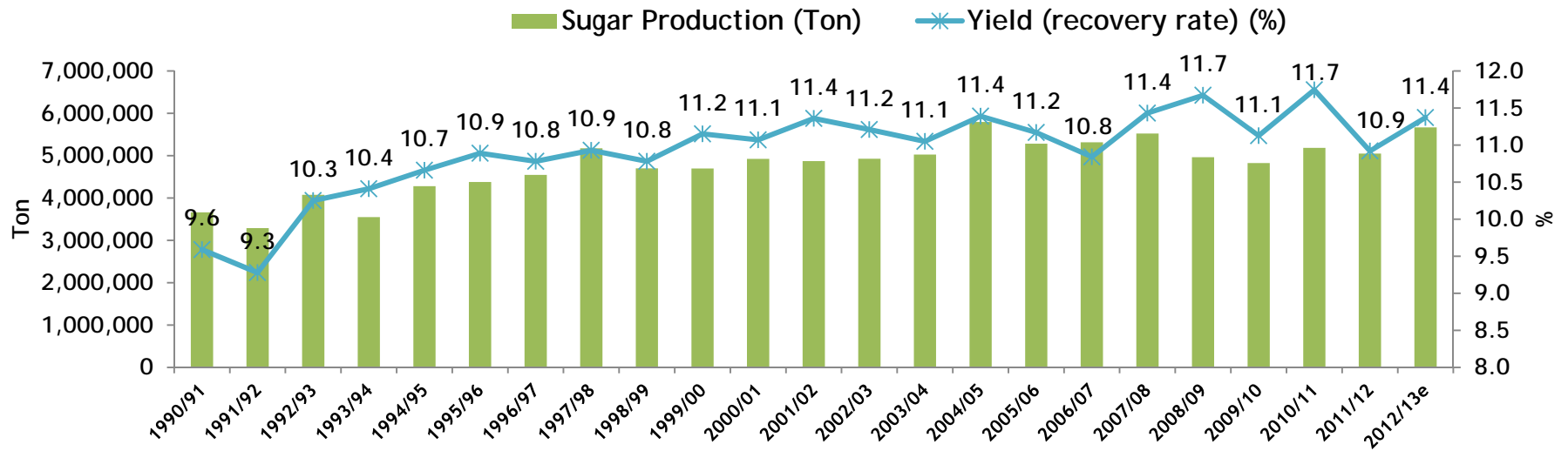


Sugarcane: area harvested and yields 1990/91 - 2012/13<sup>e</sup>

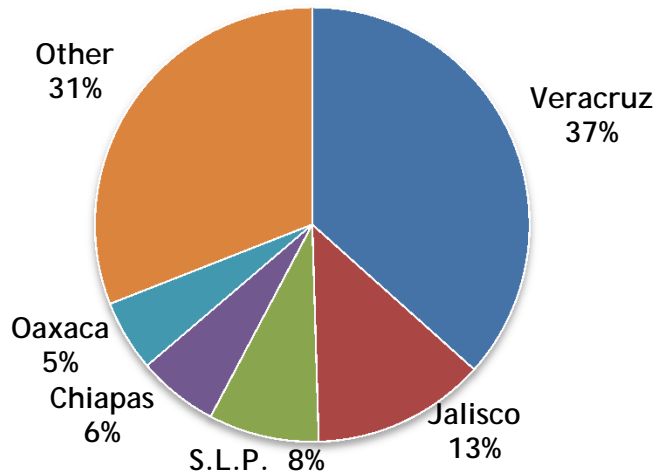


Source: CONADESUCA. e/ estimated.

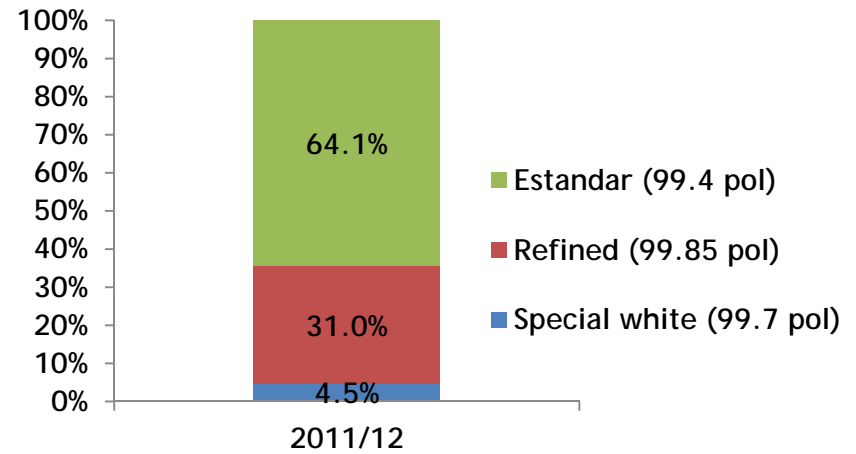
# Mexico: Sugar production



Sugar production by state



Sugar production by type



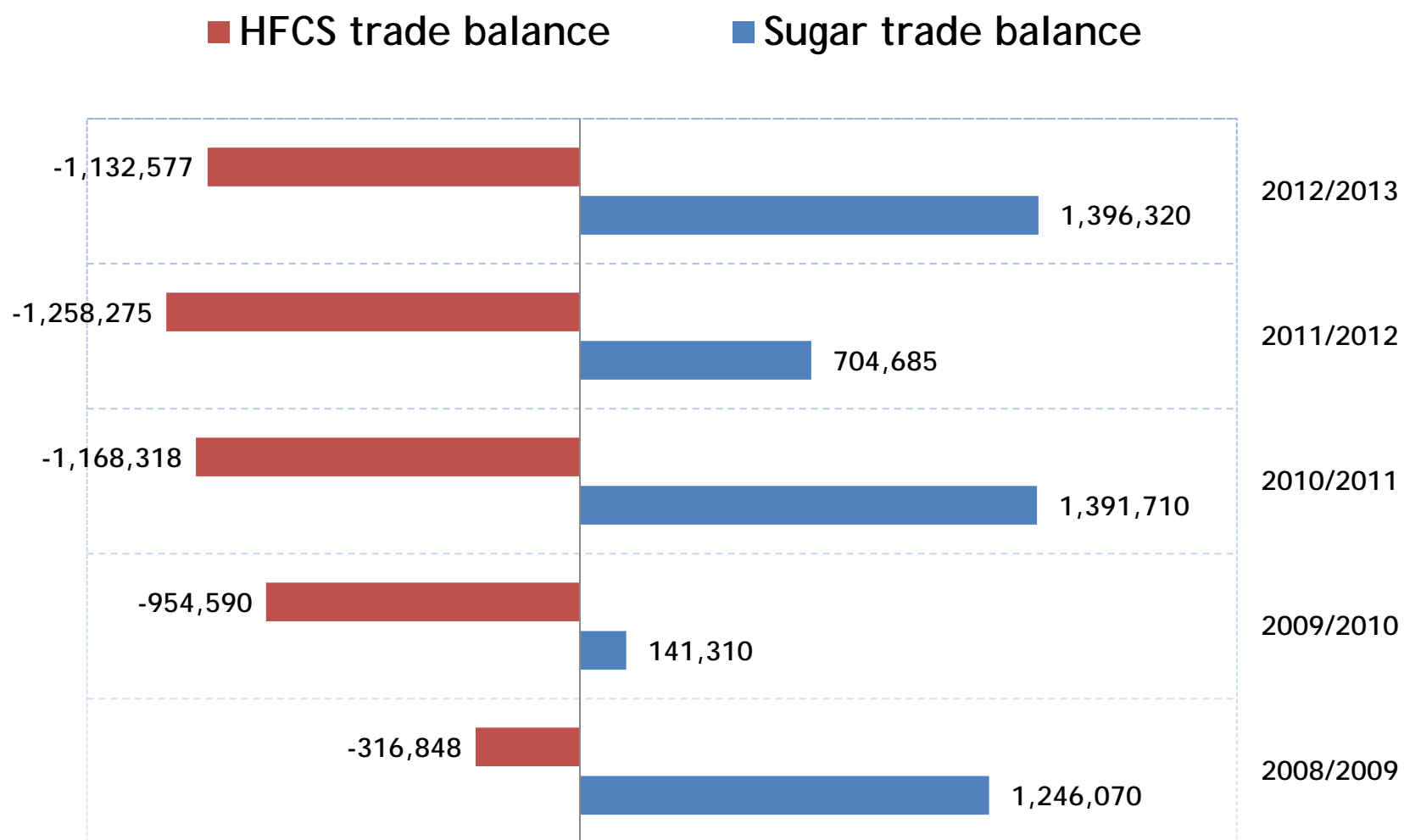


## Mexico: Sweeteners Balance (tons)

Marketing year	2008/09	2009/10	2010/11	2011/12	2012/13 <sup>e/</sup>	2012/13 vs. 2008/09 CAGR (%)
<b>Total Supply</b>	<b>7,552,894</b>	<b>7,461,291</b>	<b>7,868,104</b>	<b>7,804,467</b>	<b>8,260,306</b>	2.3
Beginning Stocks	1,864,446	587,895	918,099	759,906	957,809	
Production	5,324,162	5,288,659	5,650,295	5,525,290	6,130,442	3.6
Imports	364,286	1,585,198	1,299,710	1,519,271	1,172,055	33.9
<b>Total Demand</b>	<b>6,964,999</b>	<b>6,543,192</b>	<b>7,108,198</b>	<b>6,838,873</b>	<b>7,211,269</b>	0.9
Exports	1,293,509	771,918	1,523,101	965,681	1,435,798	2.6
Consumption	5,671,490	5,771,274	5,585,097	5,873,192	5,775,471	0.5
Final Stocks	587,895	918,099	759,906	965,593	1,049,037	

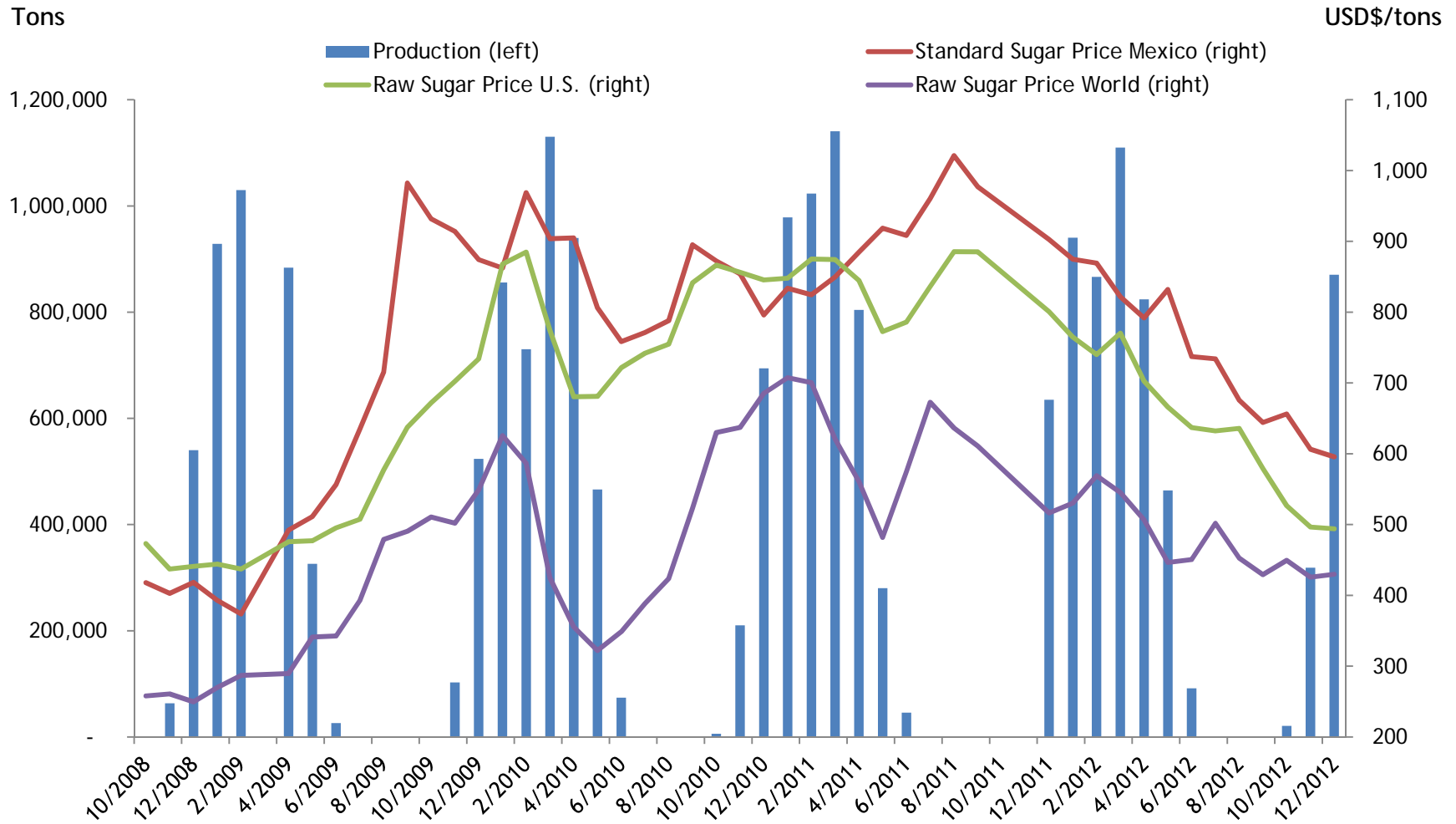
Source: CONADESUCA Sweeteners Balance e/ estimated.

# Mexico: Sugar & HFCS trade balance (ton)



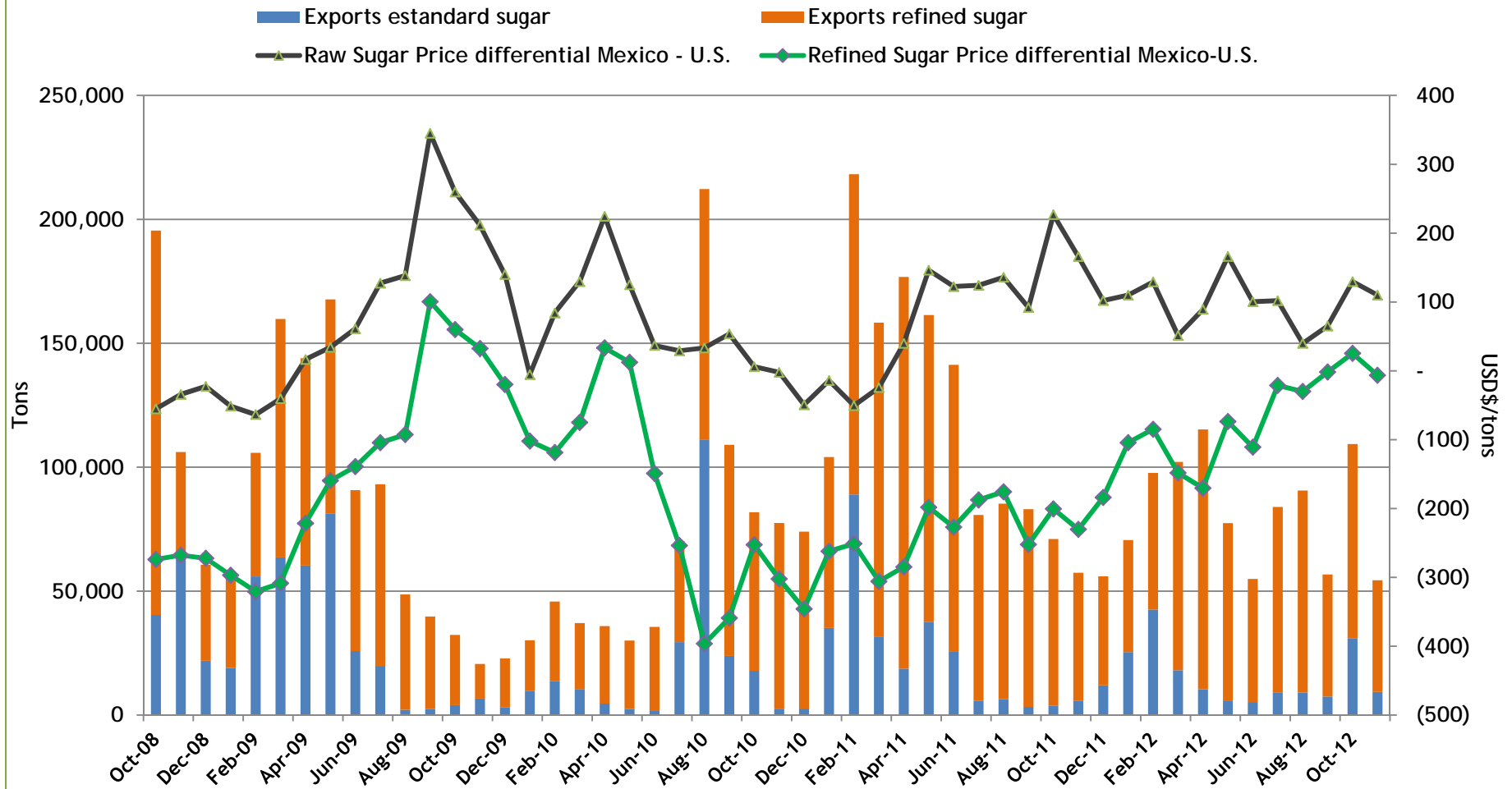
# Mexico: Sugar market

Mexican Sugar Production and Sugar Prices (Raw and Estandard)



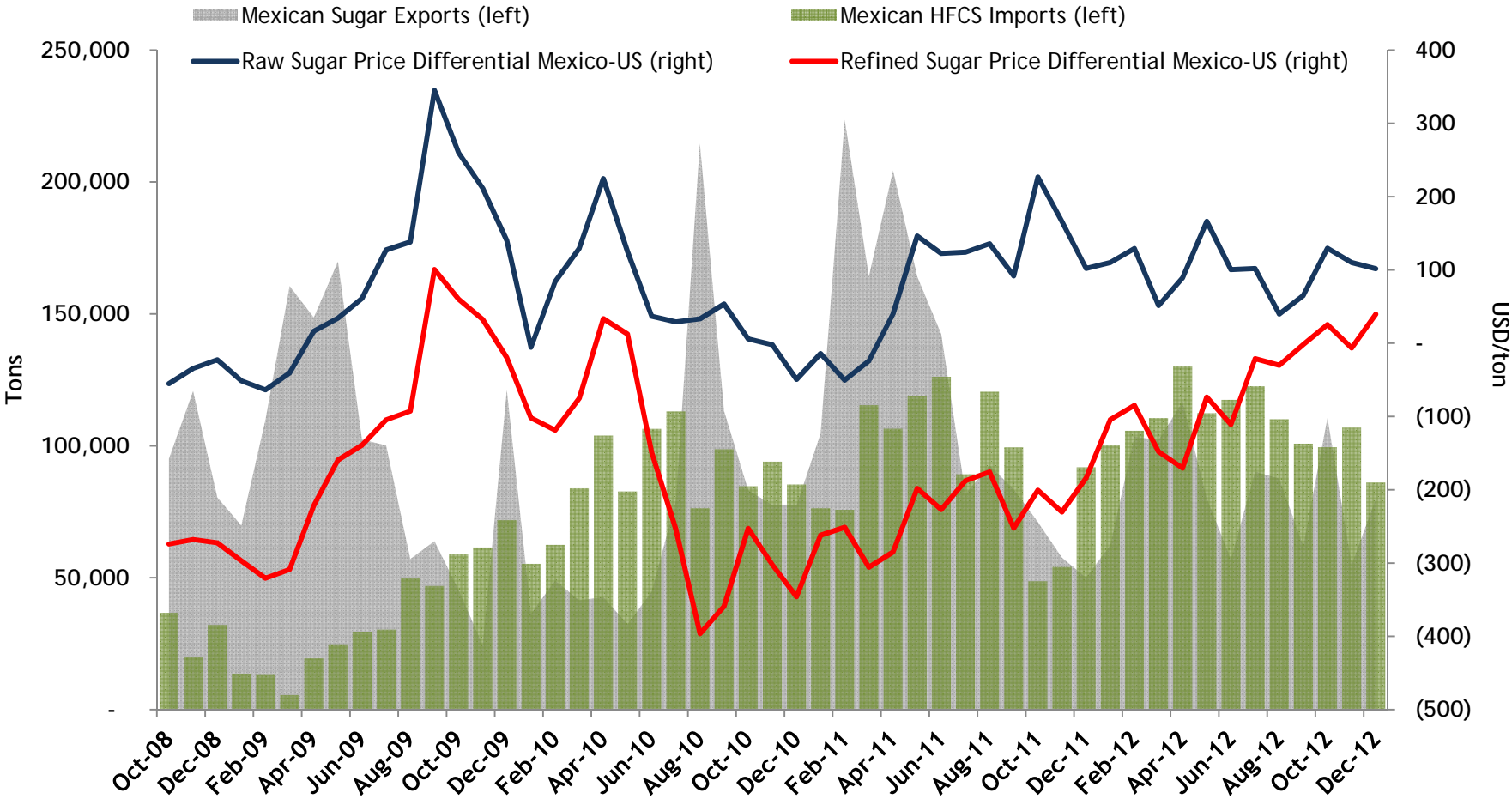
Source: CONADESUCA Sweeteners Balance and Ministry of Economy.

# Mexico: Sugar market by type of sugar



Source: Ministry of Economy , CONADESUCA and USDA .

# Mexico: Sugar exports, HFCS imports and sugar price differentials



Source: CONADESUCA Sweeteners Balance, Ministry of Economy and USDA.

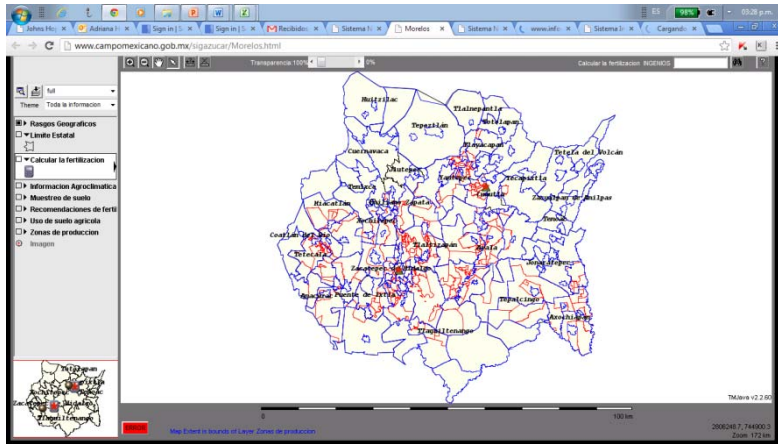
# Mexico - U.S. Comparative sugar policy

MEASURES	MEXICO	U.S.
Legal Framework	<p>Sugar Law:</p> <p>Ley de Desarrollo Rural Sustentable para la Caña de Azúcar (LDRSCA) (2005).</p> <ul style="list-style-type: none"> <li>• <u>CONADESUCA (Executive Committee)</u> with the participation of Federal Government, producers and industry (mills).</li> </ul>	<p>Food, Conservation and Energy Act 2008-2012 (Farm Bill)</p> <ul style="list-style-type: none"> <li>• Federal policy.</li> <li>• Participation of sugar producers and industry in the discussion of the Farm Bill.</li> </ul>
Price support	<ul style="list-style-type: none"> <li>• Market reference price for sugarcane (weight price of the domestic and export sugar markets).</li> <li>• <u>No supply control.</u></li> </ul>	<ul style="list-style-type: none"> <li>• Loan rates for raw cane sugar and refined beet sugar.</li> <li>• Marketing allotments (85% of U.S. sugar consumption).</li> <li>• No fiscal cost for the loan rate program.</li> </ul>
Productivity	<p>National Program of Sugarcane Agro-industry (PRONAC 2007-2012)</p> <ul style="list-style-type: none"> <li>• Increase sugarcane yields.</li> <li>• Sugar Research Institute (proposal).</li> </ul>	<p>Farm Bill (2008-2012)</p> <ul style="list-style-type: none"> <li>• National research (no specific institute for sugar).</li> </ul>

# US - Mexico Comparative sugar policy

MEASURES	MEXICO	U.S.
	<p><b>North American Free Trade Agreement (NAFTA) (Full implemented)</b>  <b>Trans-Pacific Partnership Agreement (TPP) (in negotiations)</b></p>	
Trade policy	<ul style="list-style-type: none"> <li>• WTO TRQs for Sugar Containing Products.</li> <li>• Additional TRQs to balance the market. Criteria defined by the Ministry of Trade (in consultation with Ministry of Agriculture and CONADESUCA).</li> <li>• FTAs: Central American countries have preferential access when Mexico imports from third countries.</li> </ul>	<ul style="list-style-type: none"> <li>• WTO TRQs (minimum access).</li> <li>• Additional TRQs to “meet domestic demand at reasonable prices”. Criteria defined in the Farm Bill.</li> <li>• FTAs: DR-CAFTA, Chile, Peru, Panama and Colombia, but subject to the condition of “net exporter.”</li> </ul>
Biofuels & Energy	<ul style="list-style-type: none"> <li>• Biofuel Law.</li> <li>• Non-commercial production (ethanol).</li> <li>• Co-generation.</li> </ul>	<ul style="list-style-type: none"> <li>• Option to use sugarcane to produce bioethanol.</li> <li>• Corn-base production of ethanol. Potential effect on HFCS production and exports.</li> </ul>

# National Program of Sugarcane Agro-industry (PRONAC)



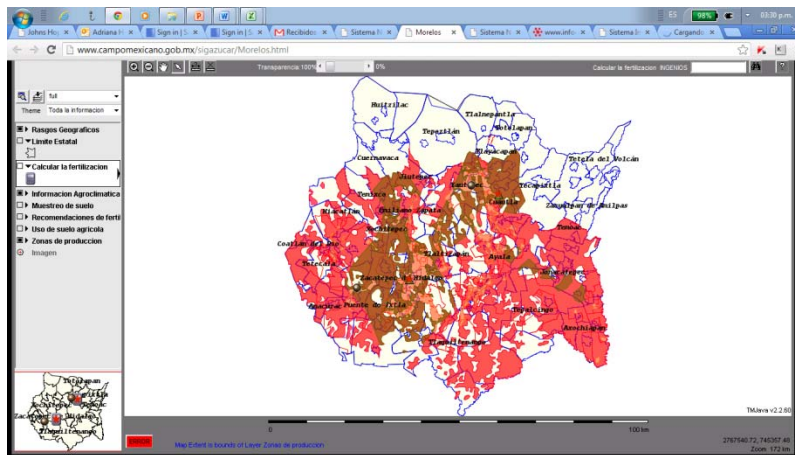
❖ Technologies to improve the decision-making process.

❖ Soil fertility and fertilizers

❖ Sugarcane production and mills location.

❖ Weather

❖ Water

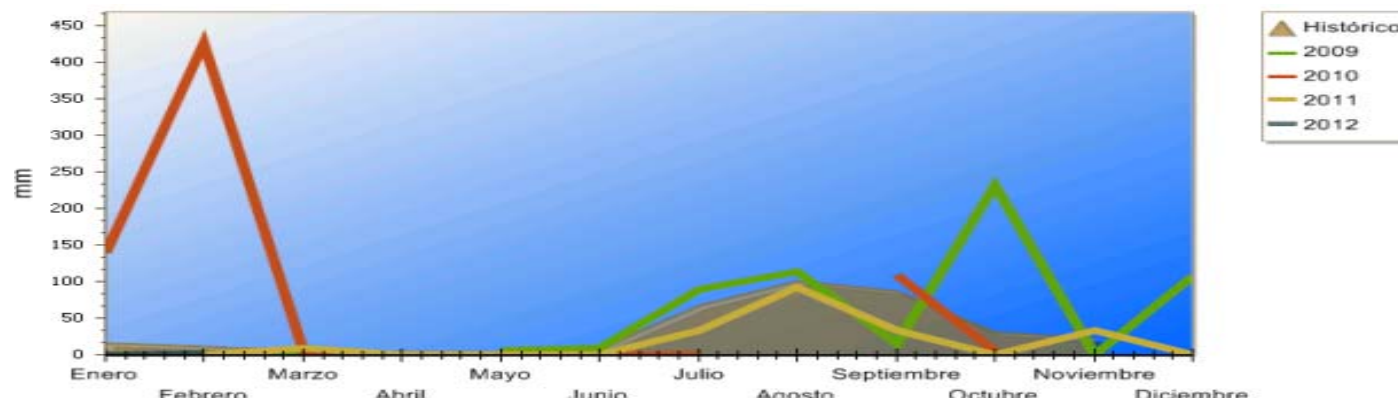




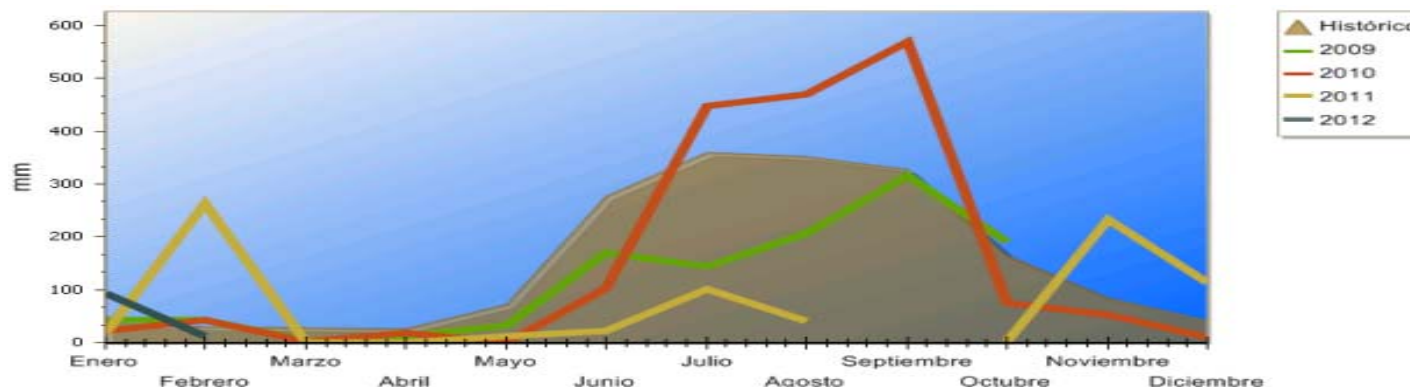
# PRONAC

## Precipitation 2009-2012 vs. Average 2000-2012

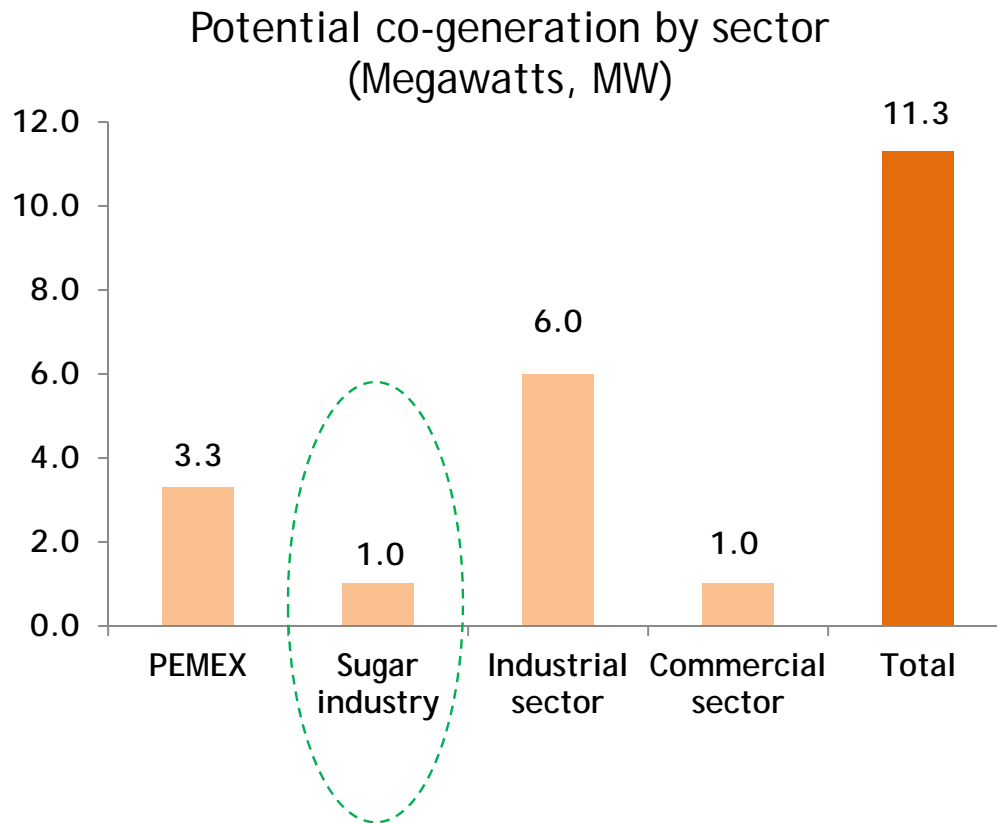
State of Sinaloa  
 Mill: Los Mochis  
 Precipitation 2009 - 2012 vs. Average 2000-2012



State of Veracruz  
 Mills: San Cristóbal y San Gabriel  
 Precipitation 2009 - 2012 vs. Average 2000-2012



# Energy: co-generation



- ❖ Increasing use of renewables in the power sector
- ❖ The Renewable Energy Development and Financing for Energy Transition Law (2008)
- ❖ Potential of the sugar industry co-generation capacity: 1.0 MW
- ❖ Financing
- ❖ Regulation
- ❖ Investment

# Future challenges: PRONAC 2013-2018?

---

- ❖ NAFTA full integration and TPP negotiations
- ❖ Price volatility
- ❖ Sustainable production and climate change
- ❖ Biofuel policy
- ❖ Changes in consumer preferences