

Kingsman's 2nd Indian Sugar Summit

**HOW BRAZIL'S SUGAR INDUSTRY
BENEFITED FROM LIBERALIZATION**



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OUTLINE

I. Historical evolution of the Brazilian sugarcane sector

- I. The state-controlled period
- II. Deregulation: the pathway towards the free market

II. The sustained growth of the Brazilian sugarcane sector

- a. Sugar and ethanol markets
- b. Overview of 2010/11 Center-South harvest season
 - Weather conditions
 - Quality of raw material
 - Perspectives

III. Final remarks

NATIONAL INTERVENTION PERIOD

1930 until 1990

- ❖ June 1933: the state intervention in the sugarcane sector started with the establishment of the “IAA” (Sugar and Ethanol National Institute*)
- ❖ During the 70’s, the national program had a twofold objective, namely: increasing sugar exports and reducing energy dependency:
 - **Sugarcane Breeding Program to improve productivity**
 - **Proálcool (Ethanol Program)**
 - began in 1975 as a response to the oil crisis
 - established an E-5 mandate and encouraged the development and demand of pure ethanol-fueled cars (E-100)



First domestic E-100 car produced in Brazil, know as the “Little Cachaça (Brazilian Rum)”

GOVERNMENT INTERVENTION PERIOD

Four major pillars

- ❖ **Production:** plan and regulate the annual sugar and ethanol production; the amount of sugarcane delivered to each industrial plant; the amount of ethanol and sugar to be produced in each state
 - *Seasonal plans were released every year informing farmers and millers about the sugarcane quantity to be processed and the price to be paid.*
- ❖ **Exports:** manages raw and white sugar exports
- ❖ **Prices:** set prices for all the products (sugarcane, sugar and ethanol), based on their production costs
 - *The government set the parity prices between sugar and ethanol to make it financially indifferent for the mills to produce either sugar or ethanol; ethanol prices at the pump should not be higher than 65% of gasoline prices*
- ❖ **Consumption:** set mandatory blends for ethanol in gasoline, plus incentives for the establishment of ethanol distilleries attached to existing sugar mills
 - *According to the “IAA act”, no sugarcane processor could be established without authorization*

THE DEREGULATION OF THE SUGARCANE SECTOR

A gradual process

- ❖ During the early 90's, the Brazilian Economy as a whole dramatically moves towards liberalization, openness and privatization.
- ❖ Sugarcane industry ran along the same pathway: the first movement was the closure of IAA, the major government intervention agency, in 1990. This was followed by a gradual process of liberalization of the sector:
 - Elimination of public production and exports controls (1990)
 - The mandate for national agencies and sector ministries to take over some of the IAA tasks (1991)
 - The establishment of CIMA – The Sugar and Ethanol Inter-Ministerial Council (1997)

CIMA's main roles: responsible for policies such as the definition of economic mechanisms for self-sustaining economic growth of the industry (e.g. establishment of credit lines for ethanol stocks); recommendation for the ethanol level blending in gasoline (20-25%); assessment of the participation of sugarcane in the Brazilian energy matrix

THE DEREGULATION OF THE SUGARCANE SECTOR

A gradual process

- ❖ Effective measures regarding liberalization of ethanol and sugarcane **prices** started only in 1997. Given the social, economic and environmental importance of the sector, it was established a phasing-out process, concluded just in **February of 1999**
- ❖ One of the major constraints for this process to move faster was the resistance of the sector on how to price the feedstocks



1999: creation of sugarcane payment model named “CONSECANA”



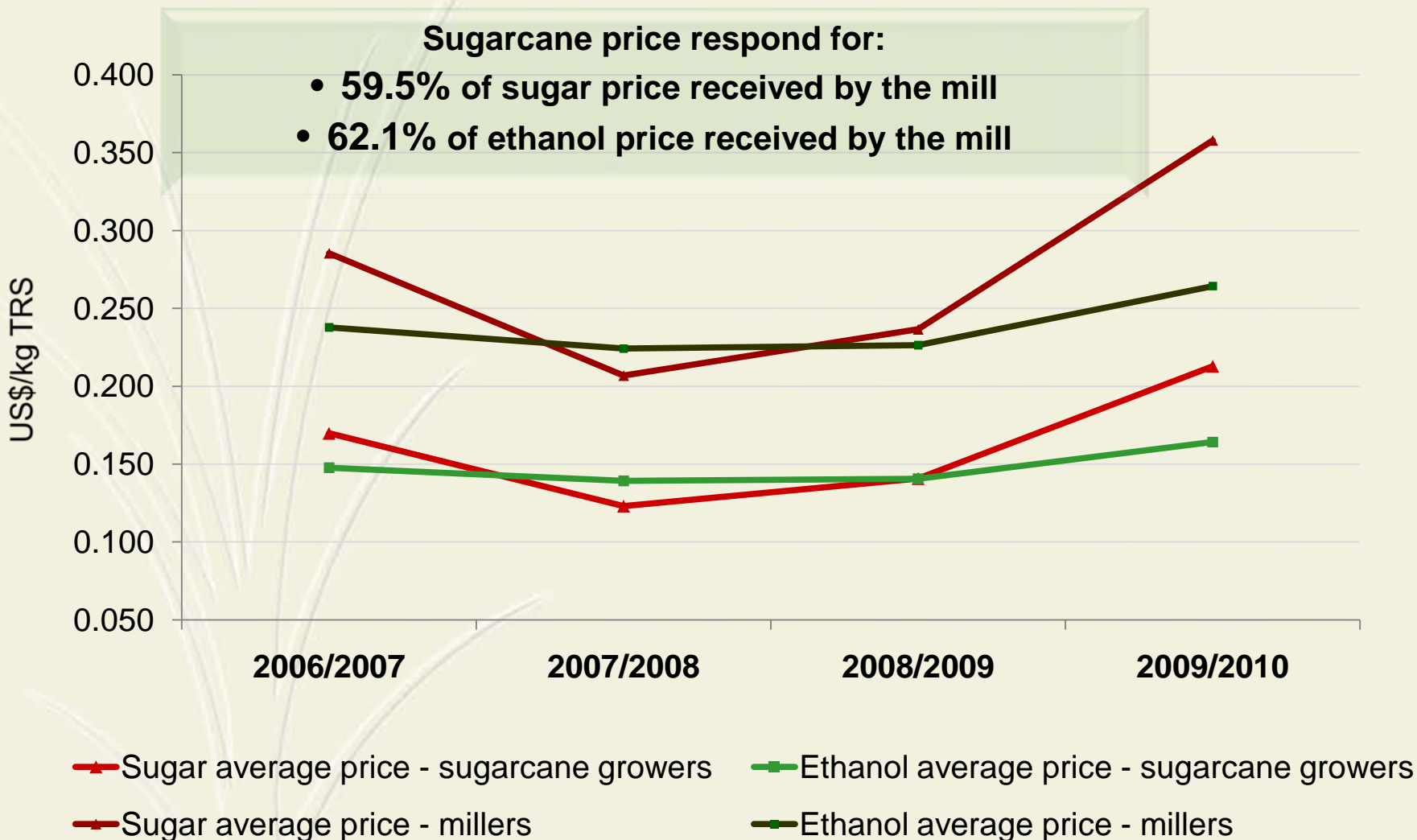
- **It is a private sector arrangement which main objective is to share risks between sugar and ethanol producers and sugarcane growers**
- **Main rules: (1) the revenue of the sugarcane grower is proportional to the industrial revenue; (2) price of sugarcane supplied by each grower depends on the level of sucrose that the product contains**

MAIN RULES OF CONSECANA MODEL

- ❖ **The revenue of the sugarcane grower is proportional to the industrial revenue**
 - On average, sugarcane production accounts for **60%** of total sugar and ethanol production costs. Therefore, the sugarcane grower receives on average **60%** of the agroindustrial revenue.
 - Price of sugarcane supplied by each grower depends on the level of **sucrose** that the product contains.
- ❖ **Mill pays more for sugarcane which contains more “sugar”**
 - The quantification of the sugar contained in sugarcane is determined in terms of TRS (“Total Recoverable Sugar”^{*}). TRS represents the quantity of sucrose, glucose and fructose which will be effectively converted into sugar and ethanol
 - Growers have the right to monitor mill laboratories 24 hours per day
- ❖ **A **dynamic model**, subject to revisions of its parameters and improvement of its rules on a regular basis (general revisions conducted **every 5 years**)**

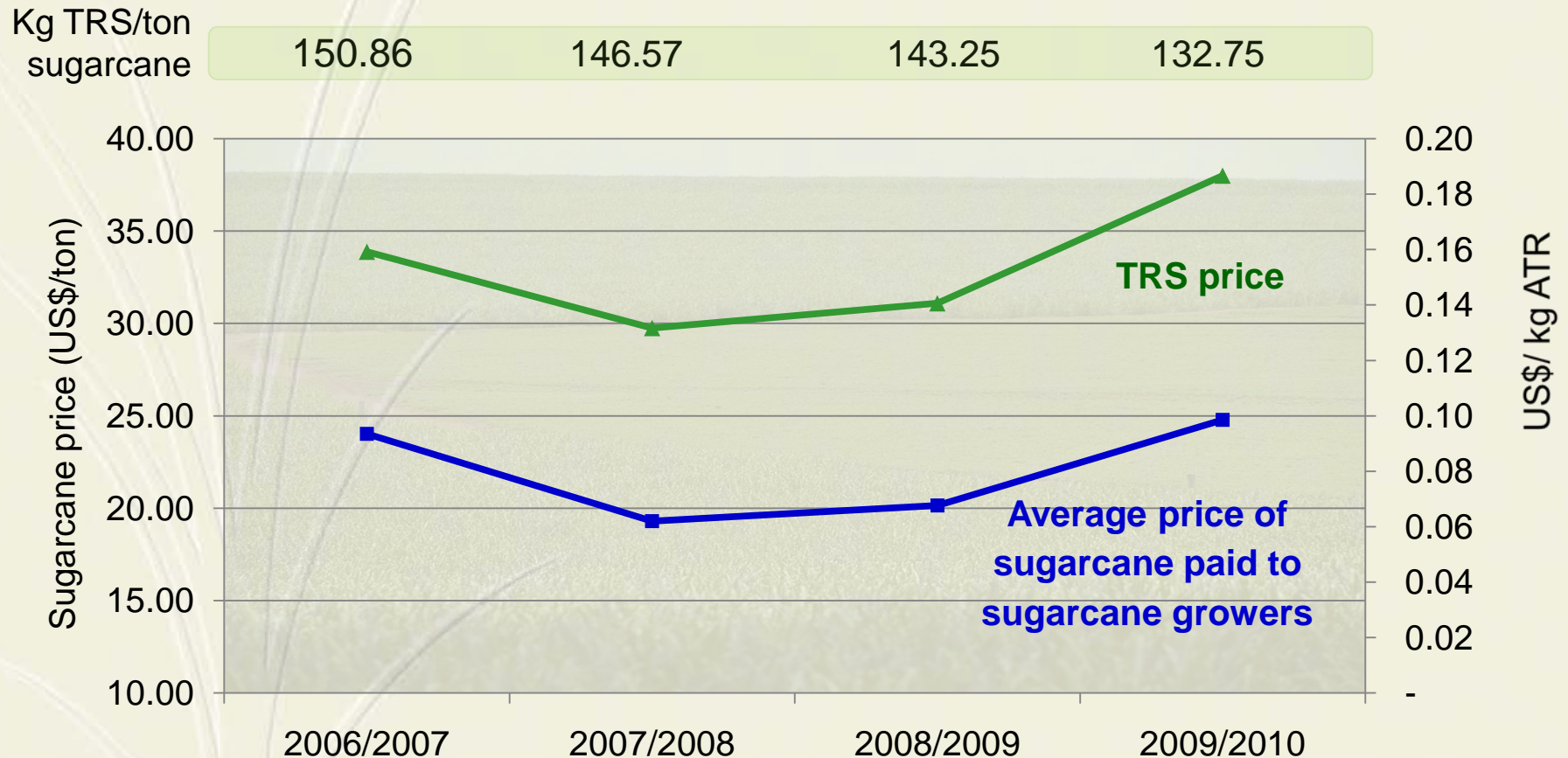
CONSECANA MODEL

Price received by millers and sugarcane growers in São Paulo state



CONSECANA MODEL

Sugarcane quality and price received by sugarcane growers in São Paulo state

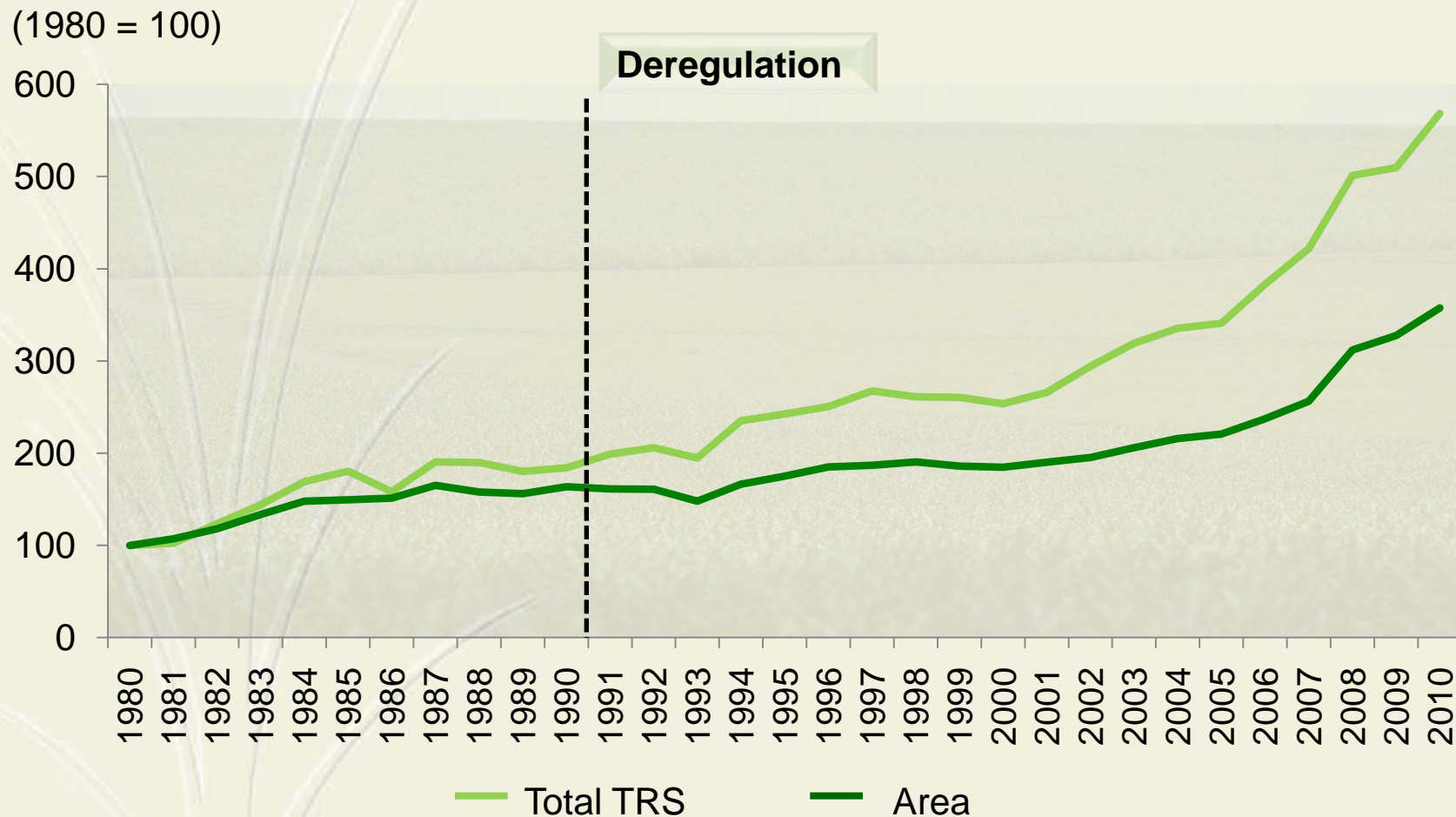


***The Brazilian sugarcane sector
after the state intervention period:
sustained growth***



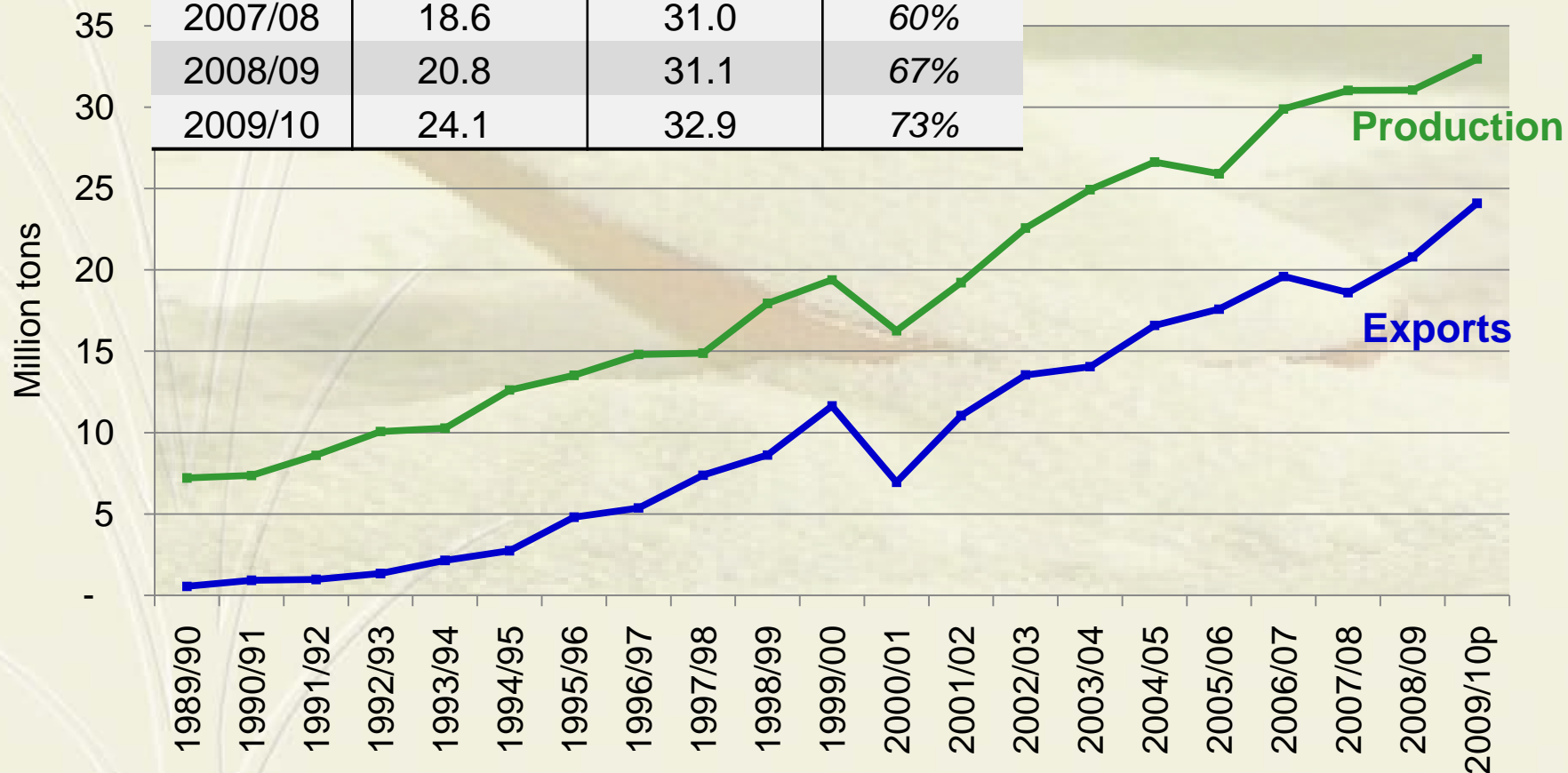
EVOLUTION OF BRAZILIAN SUGARCANE PRODUCTION

Sugarcane area and yield

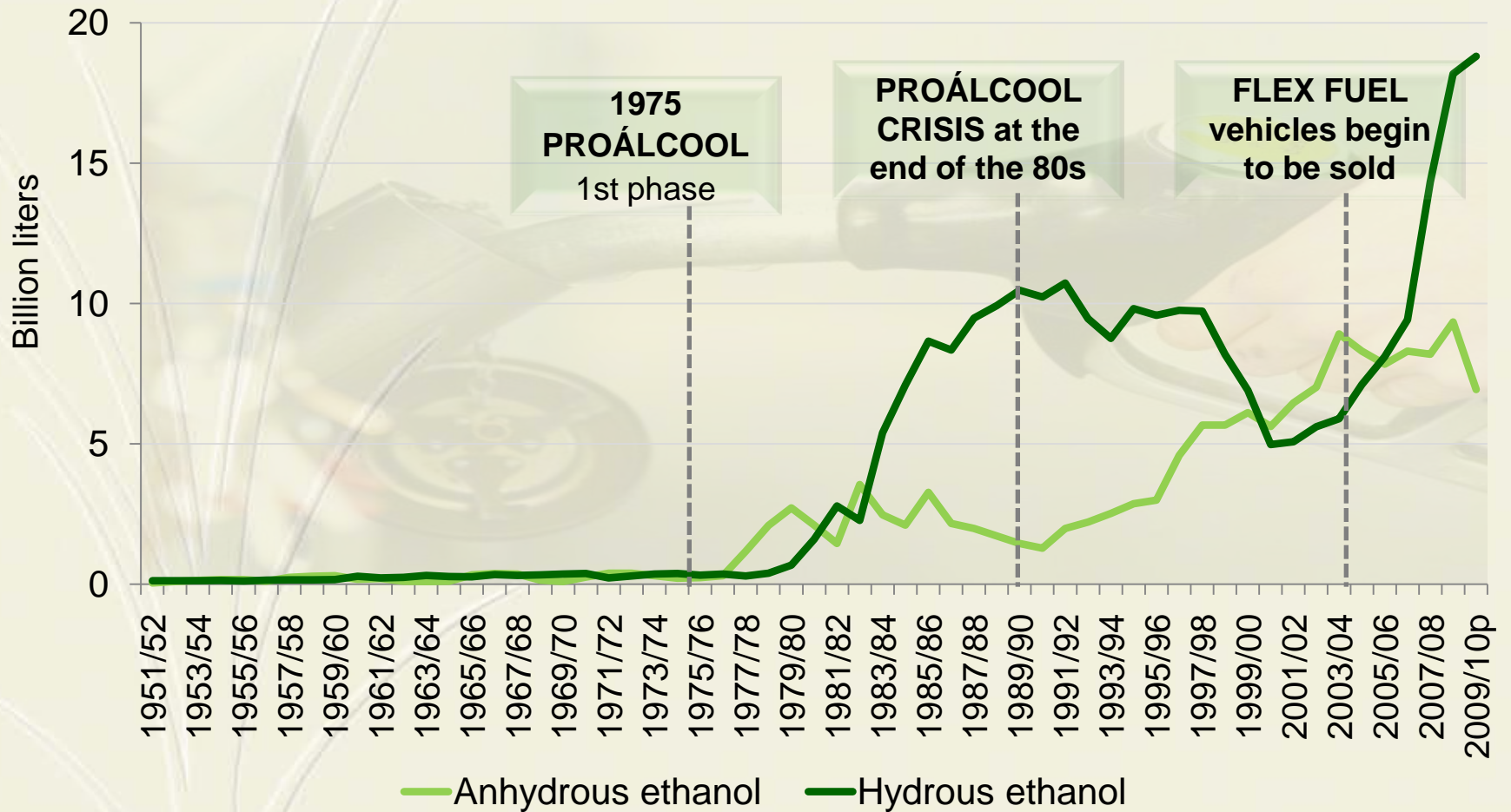


BRAZILIAN SUGAR PRODUCTION AND EXPORTS

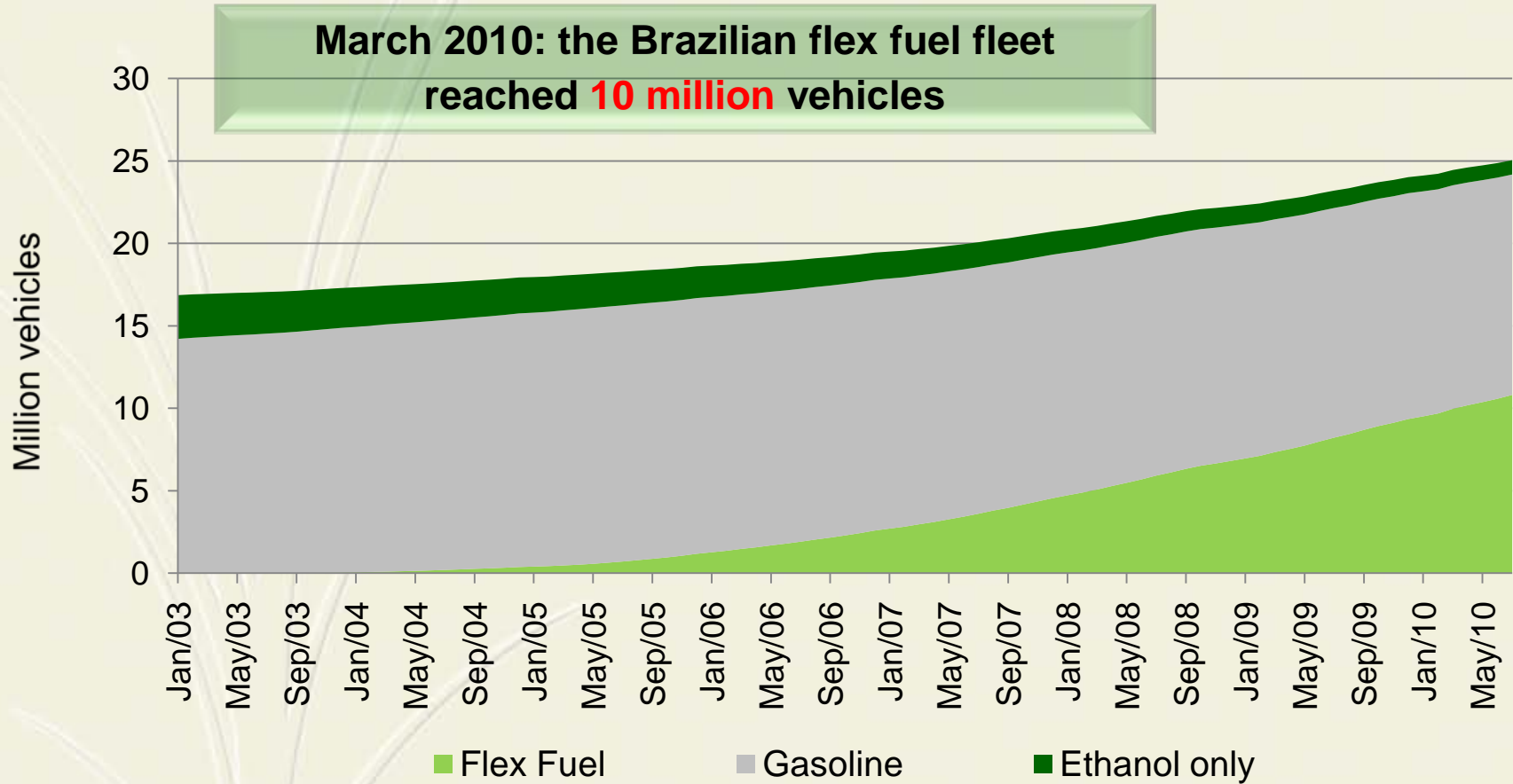
Harvest season	Exports <i>Million Tons</i>	Production <i>Million Tons</i>	Exp/Prod
2007/08	18.6	31.0	60%
2008/09	20.8	31.1	67%
2009/10	24.1	32.9	73%



BRAZILIAN ETHANOL PRODUCTION

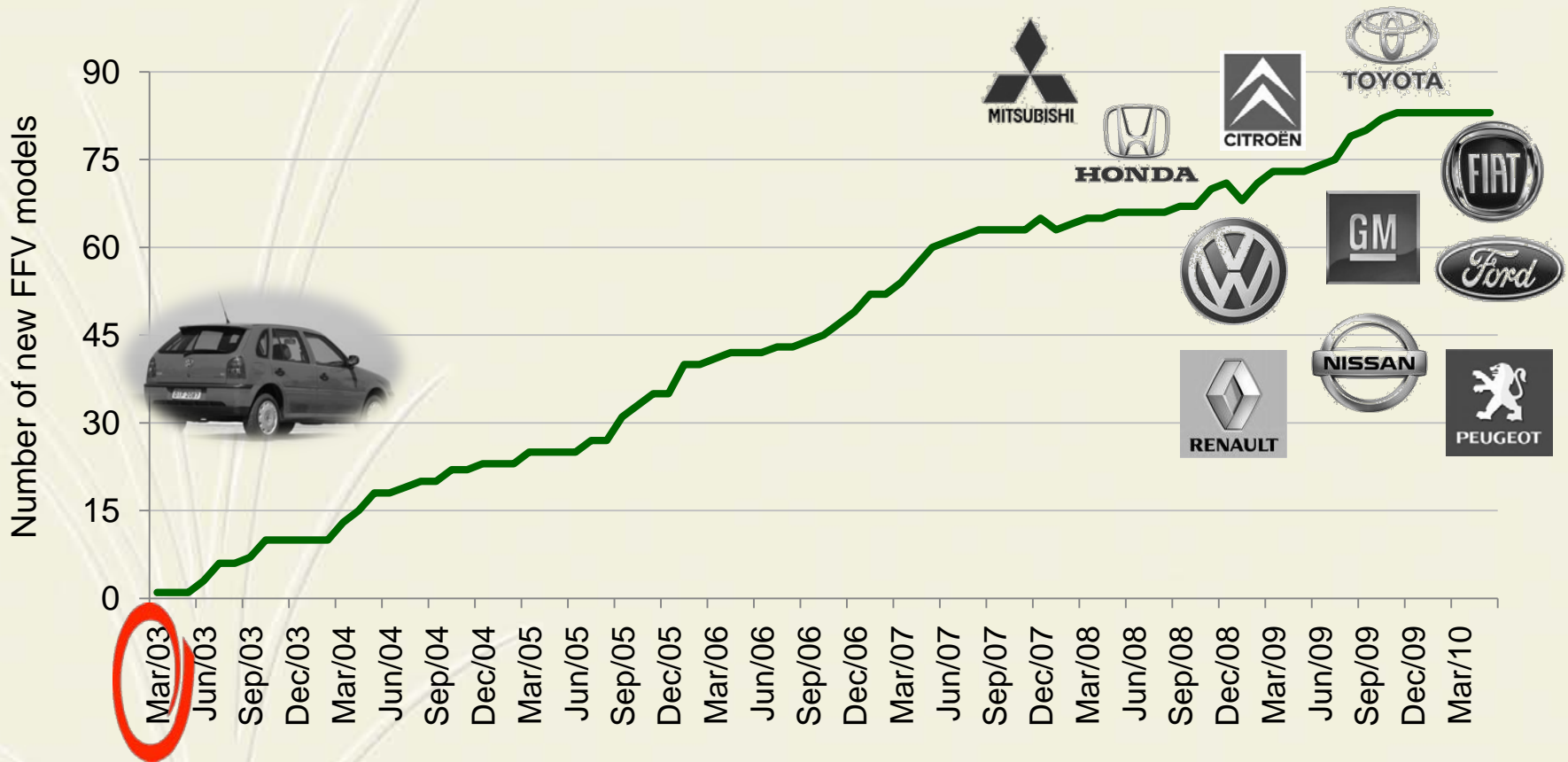


NATIONAL AUTOMOBILE AND LIGHT VEHICLE FLEET



EXPANSION OF THE FLEX-FUEL TECHNOLOGY

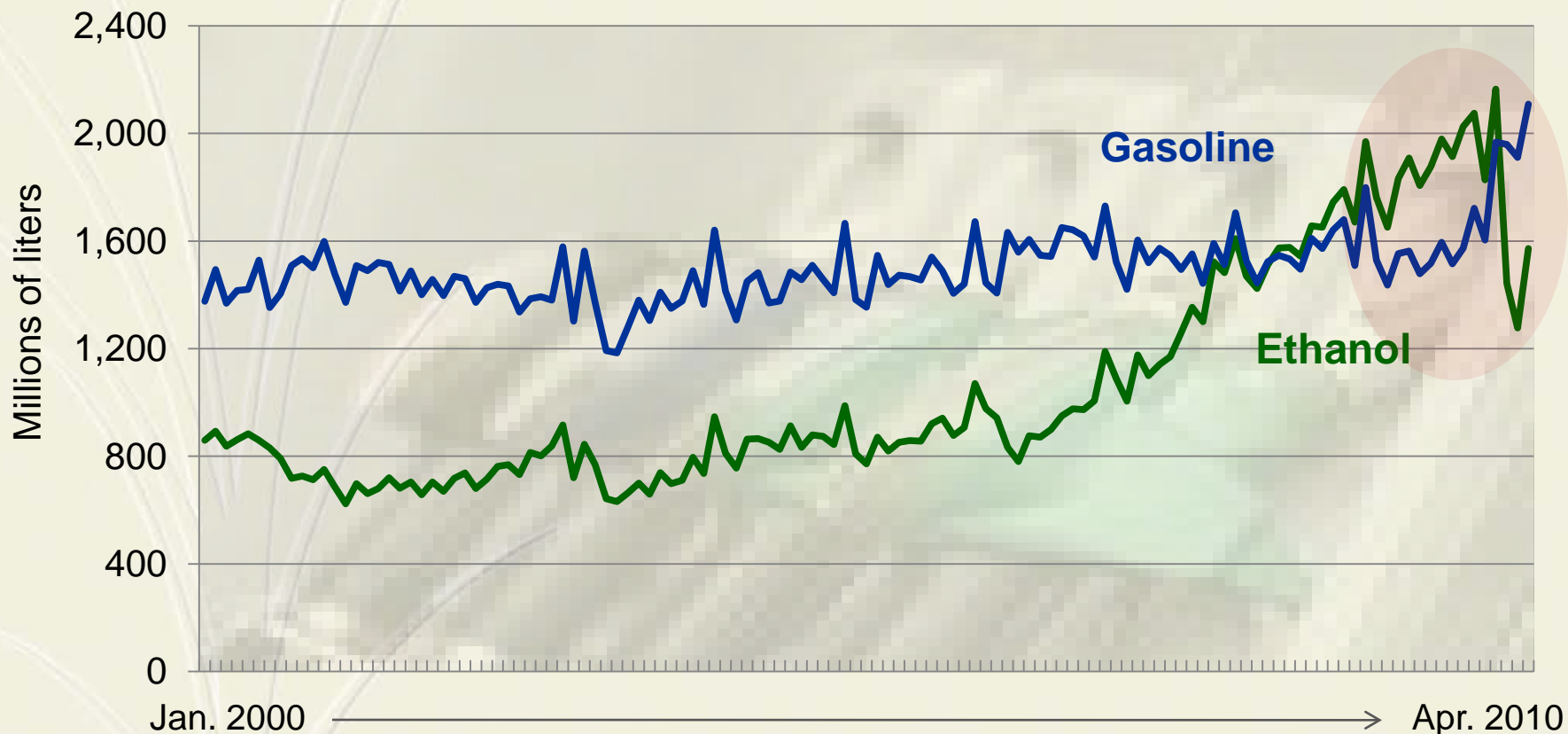
Number of flex-fuel models



Today, 11 auto-makers produce 83 different flex-fuel models.

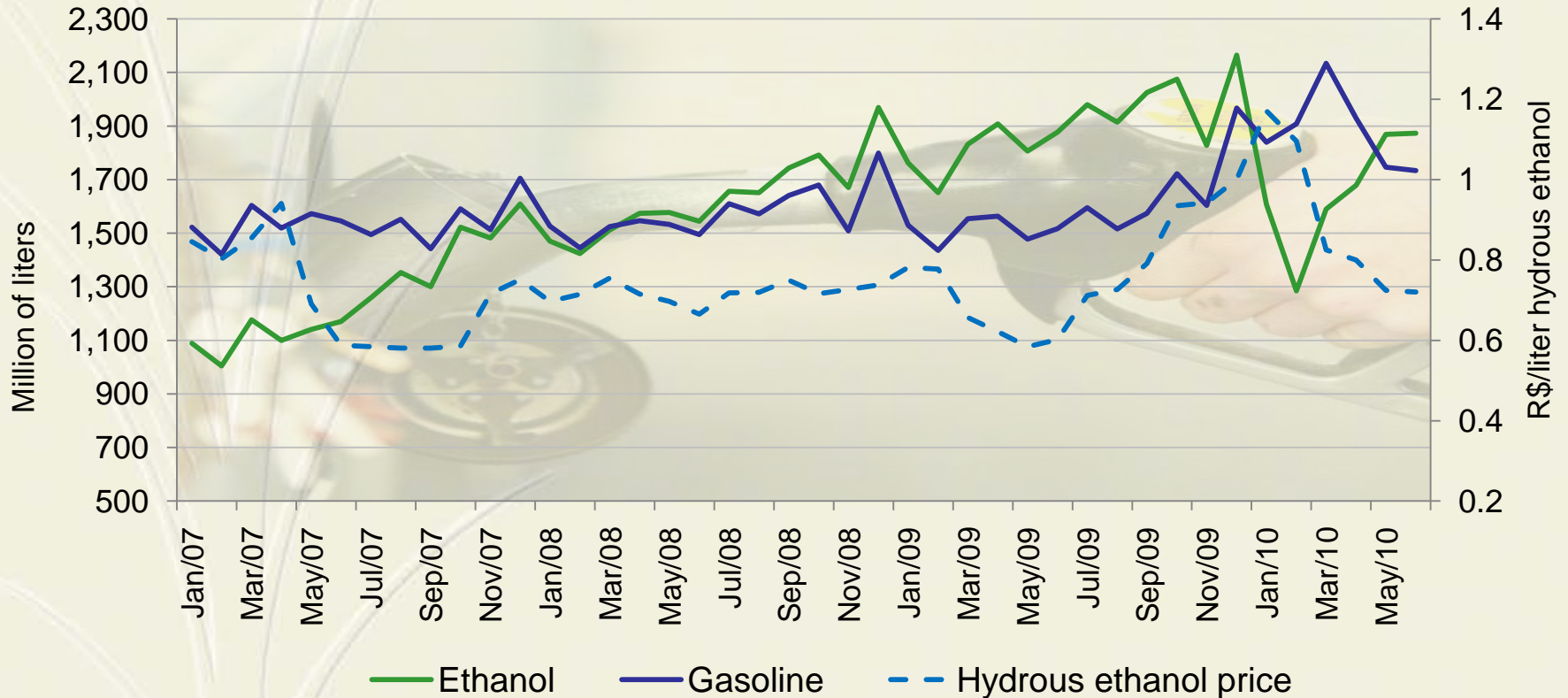
GROWTH OF FLEX-FUEL VEHICLE AND MOTORCYCLE FLEET

Evolution of Brazilian ethanol and gasoline consumption



CONSUMPTION vs. PRICES

Brazilian ethanol and gasoline consumption X price received by hydrous ethanol producers in São Paulo state



STRONG CONSOLIDATION MOVEMENTS

- ❖ There is still many opportunities for more M&A in Brazil
 - Despite recent mergers and acquisitions, the productive sector is still very fragmented and with little entry barriers
 - Higher concentration in commercialization to gain more market power
- ❖ Main challenge for the new agents of the sugarcane sector: management and logistics of sugarcane production.



SUGARCANE INDUSTRY: NEW PRODUCTS AND NEW USES

New products



Sugar



Ethanol



Bioelectricity



Bio-ethylene



Bio-hydrocarbons

New uses

Bus



Aircrafts



Motorcycles



**Alcohol chemistry
(bio-plastics)**

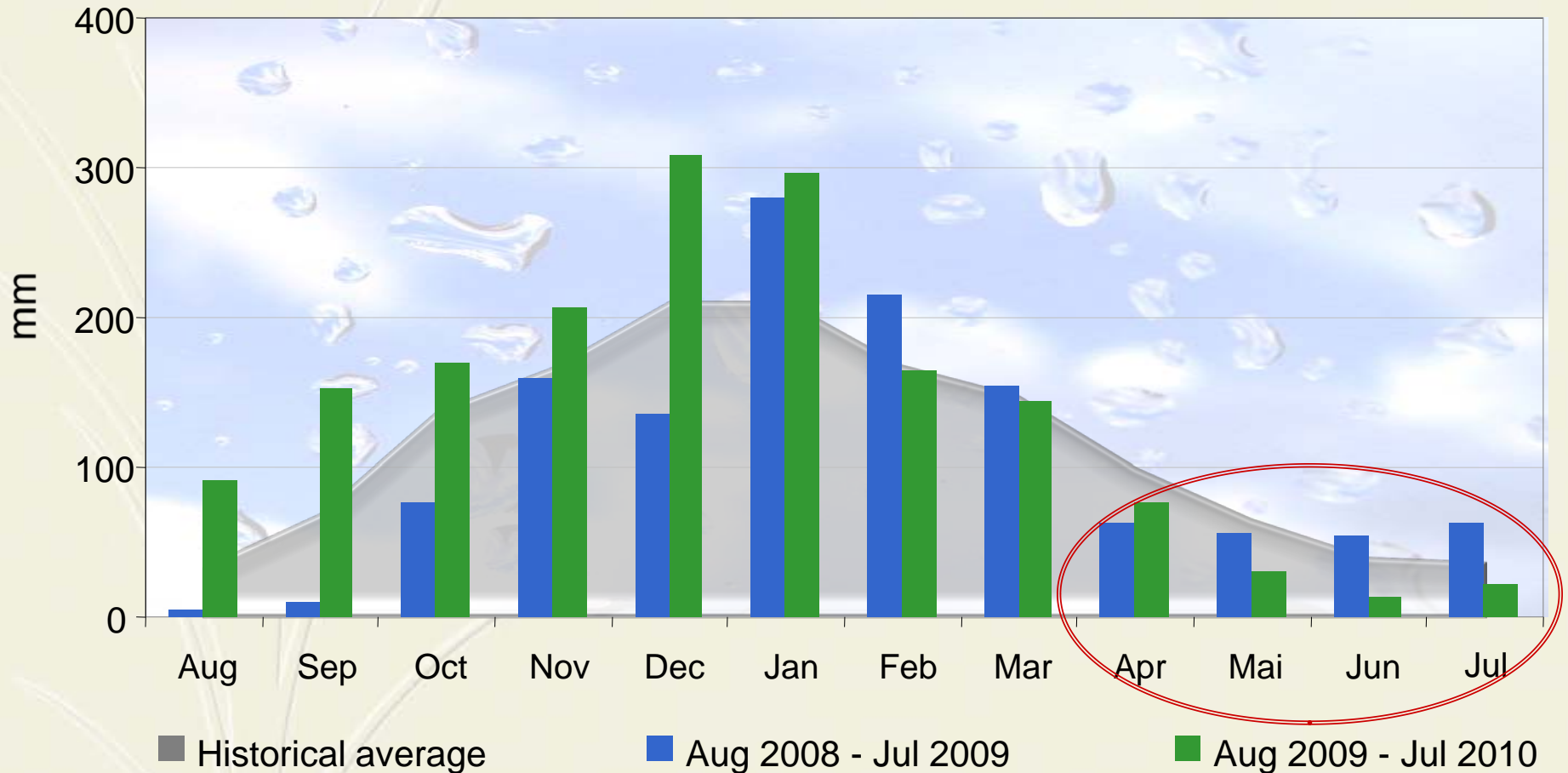


**Bio-hydrocarbons
(cane diesel, jet fuel)**



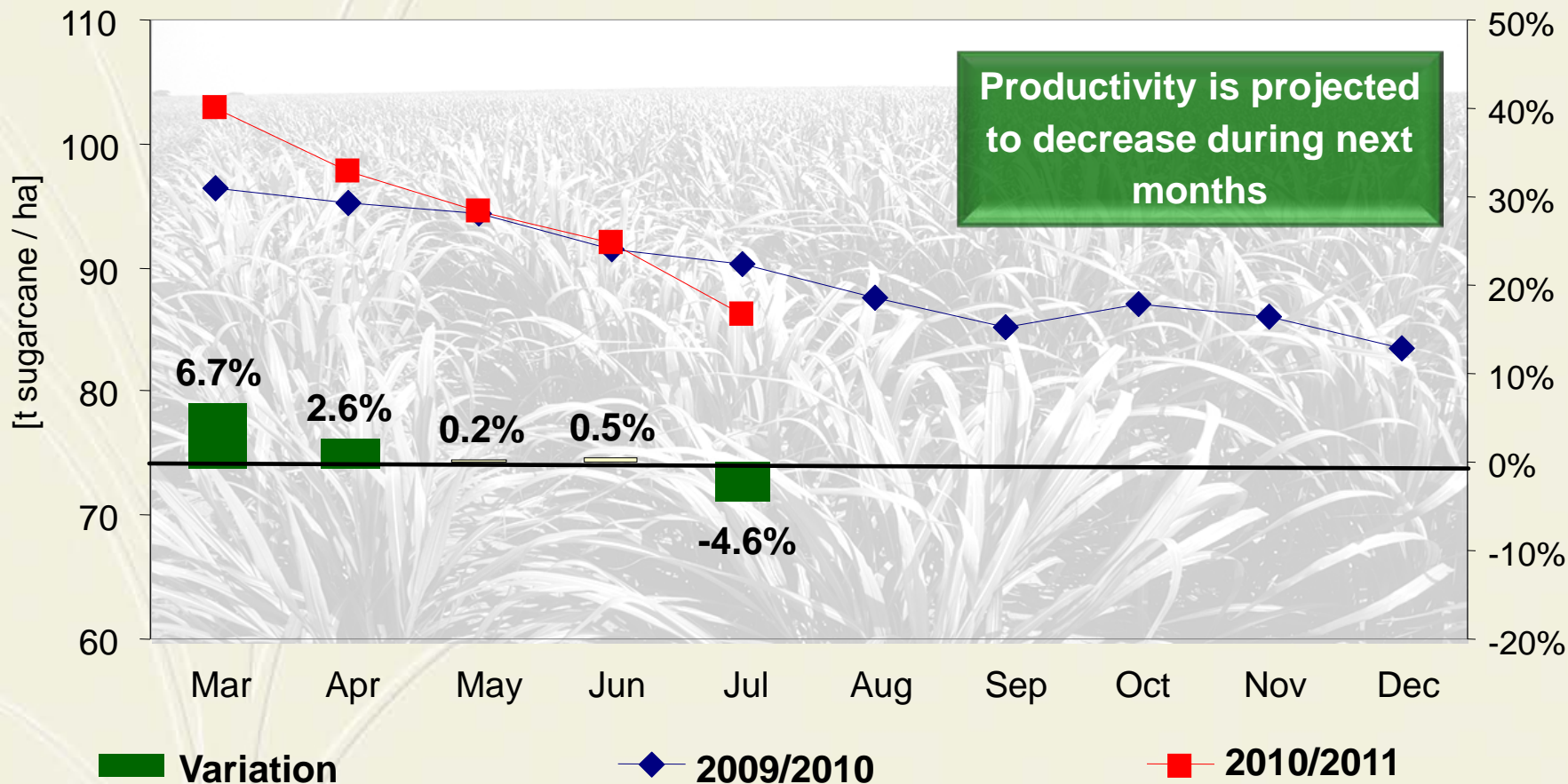
OVERVIEW OF 2010/11 CENTER-SOUTH HARVEST SEASON

Rainfall in the South-Central region



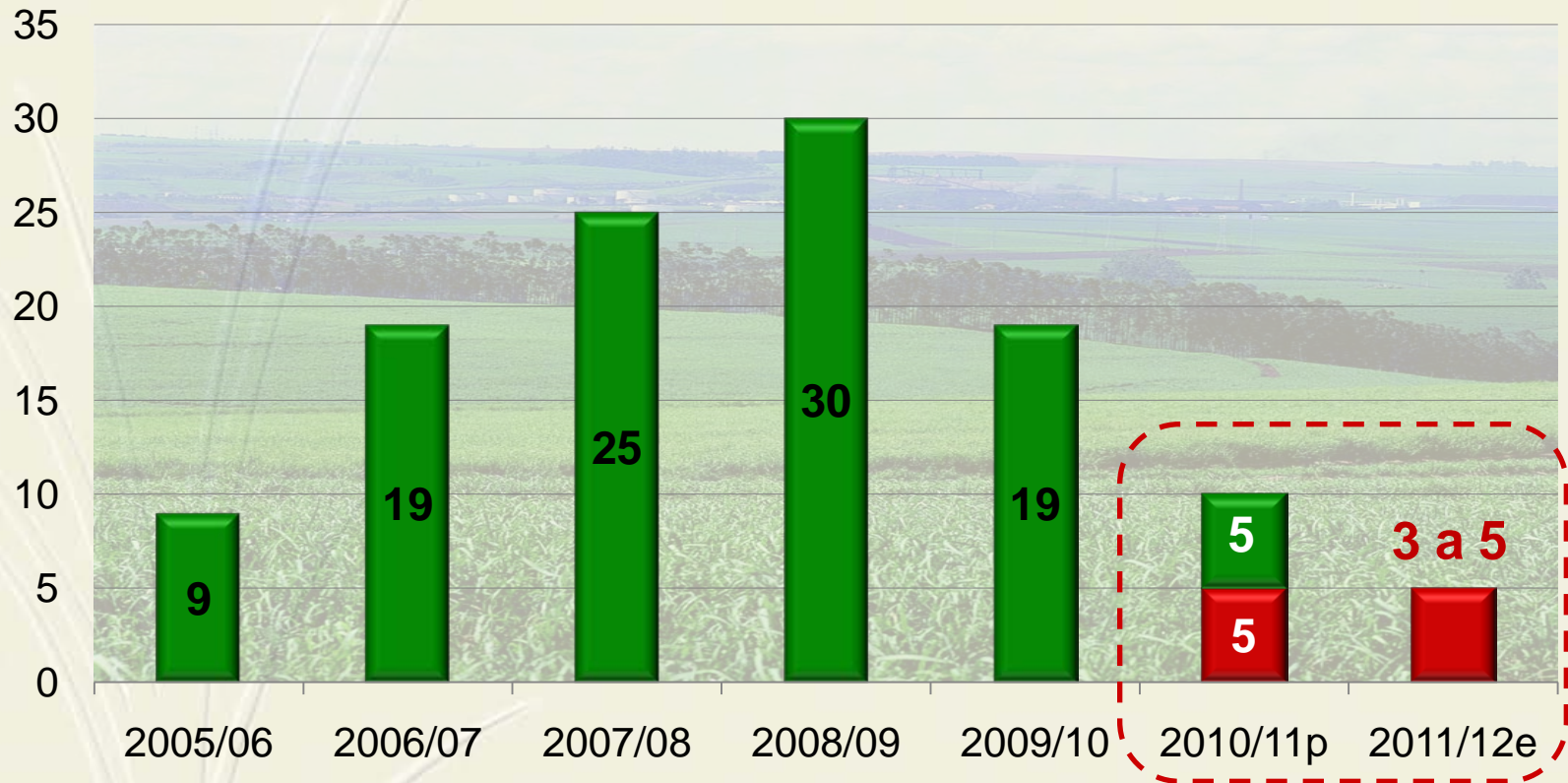
OVERVIEW OF 2010/11 CENTER-SOUTH HARVEST SEASON

Monthly productivity in South-Central region



OVERVIEW OF 2010/11 CENTER-SOUTH HARVEST SEASON

New units in South-Central Brazil



10 new mills in 2010/11 harvest season, 3 to 5 new mills in 2011/12

2010/2011 HARVEST UPDATE OF SOUTH-CENTRAL REGION

	A 2008/09	B 2009/10	C 2010/11 ^(*)	C/B (%)
Harvest				
Sugarcane crushed (million tons)	504.9	541.9	570.2	5.2%
Production				
Sugar (million tons)	26.7	28.6	33.7	17.7%
<i>Anhydrous ethanol (billion liters)</i>	8.2	6.2	7.3	17.8%
<i>Hydrous ethanol (billion liters)</i>	16.8	17.5	19.1	9.1%
Total ethanol (billion liters)	25.1	23.7	26.4	11.4%
Quality of raw material				
TRS per ton of sugarcane (kg/t)	140.9	130.2	141.3	8.5%
TRS total (million tons)	71.1	70.8	80.6	14.1%
Share				
Sugar (%)	39.5%	42.6%	43.9%	
Ethanol (%)	60.5%	57.4%	56.1%	
Exports				
Ethanol (billion liters)	4.2	2.8	1.4	-47.5%
Sugar (million tons)	17.7	21.2	22.8	7.3%

FINAL REMARKS

- ❖ Deregulation should be a **gradual** and **transparent process** so that agents can adjust accordingly.
- ❖ Energy sector (such as transport fuels and electricity) will always need some level of state regulation but they have to be **clear**, as much **market-driven** as possible, and with a **long term horizon** (long maturity period of investments).
- ❖ Public policies should optimize steps taken by the private sector.
- ❖ Competitiveness of the sugarcane supply chain requires **coordination** and **cooperation** among its agents (e.g.: Consecana, sustainability criteria, communication efforts).

FINAL REMARKS

❖ Cooperation among countries is fundamental:

- a. **Agriculture:** technological transfer and adaptation for sugarcane varieties and management
- b. **Industry:** industrial processing for sugar and ethanol, co-generation and new developments, such as bioplastics, alcoochemicals, bio-hydrocarbons
- c. **Automobile industry:** flex-fuel vehicles, engine improvement
- d. **Exchange of knowledge on regulatory and sustainable practices**
- e. **Facilitation of direct investments**
- f. **Forums such as the Global Sugar Alliance** → cooperation for WTO results (e.g.: panel against EU sugar policies and the Doha Round)

Thank you!



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AGENDA



Potential growth in supply and demand

■ Demand

- » Growth of flex-fuel vehicle and motorcycle fleet
- » New products and new uses
- » Expansion of ethanol use in the chemical industry
- » Use of bioelectricity
- » Increase of global ethanol consumption
- » Increase in global sugar consumption

■ Supply

- » Competitiveness of the productive system and growth potential

AGENDA

Risks and challenges

- » Volatility of the Energy Policies in Brazil
- » Pricing policies of gasoline and taxations (CIDE and ICMS)
- » Consolidation, costs, logistics and economies of scale
- » Tariff and nontariff barriers to Brazilian ethanol
- » Risks of bioelectricity regulations
- » Increasing social and environment costs

