Colombian Sugarcane Research Center

Science, technology and innovation for the Colombian sugarcane industry

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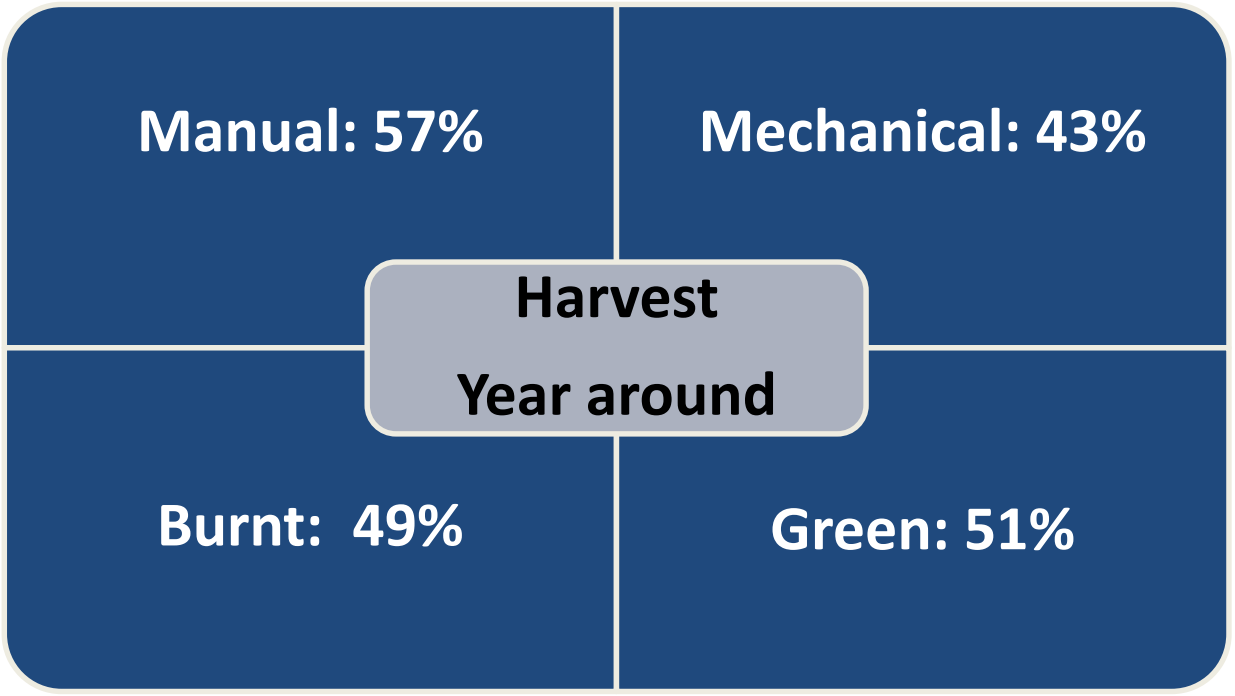
AGENDA

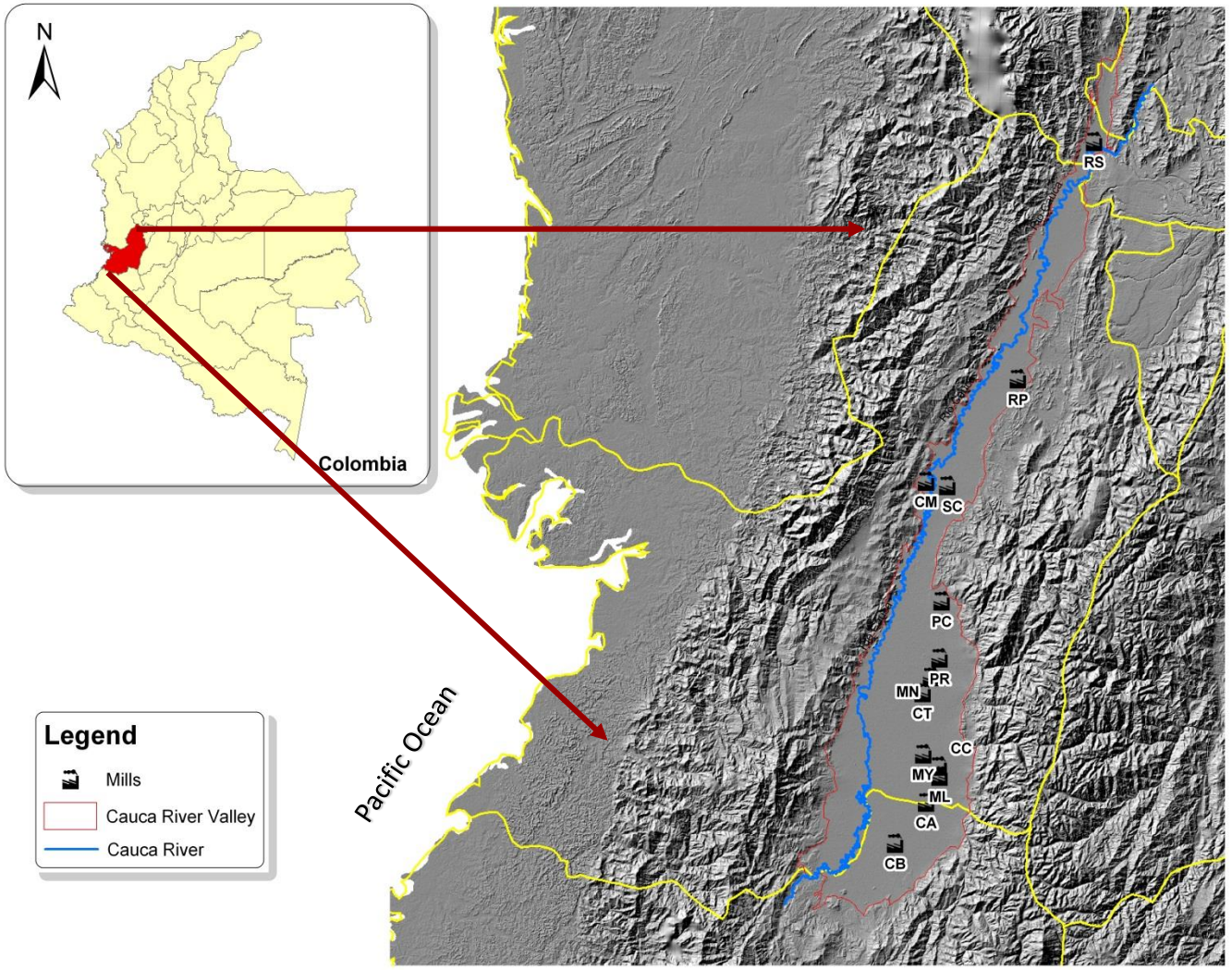
- Introduction
- Cenicaña
- Achievements
- Projections

Crop & harvest characteristics

Crop cycle: 12-15 mo



Location of 13 sugarcane mills in Colombia



Colombian Sugarcane Sector

Asocaña – Association of cane growers and mills

Cenicaña - Colombian Sugarcane Research Center

Procaña – Association of Cane Producers

Ciamsa – Marketing Company for Sugar and Molasses

Tecnicaña – Society of Sugarcane Technologists

Sugar mills: 13

Cane growers: 2,700

Colombian Sugar Industry Main Indexes 2008- 2013

Crushed cane (t): 22,728,758

Sugar production (t): 2,339,988

Ethanol production (m^3): 351,086

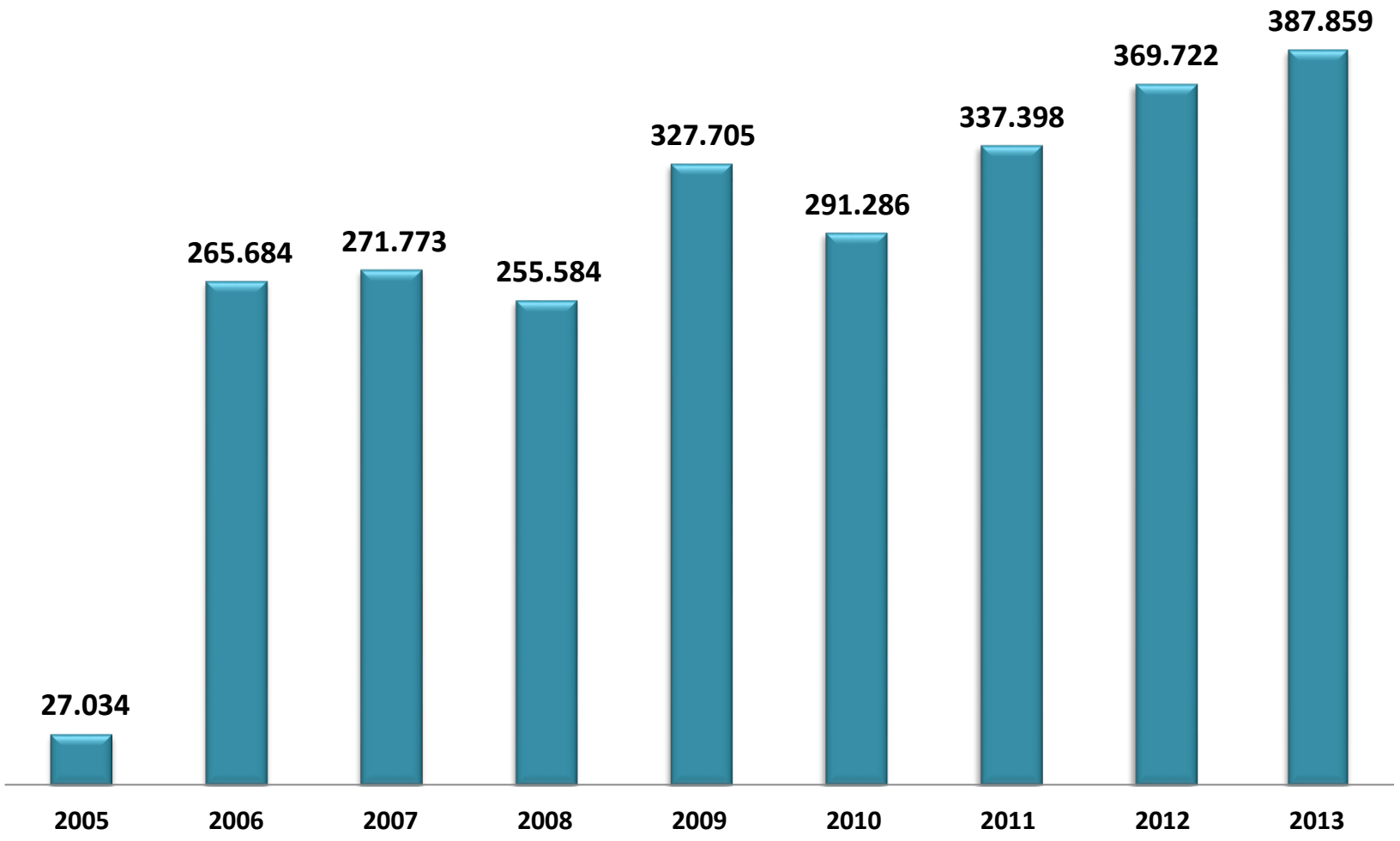
Sugar yield (99, 7% pol): 11.37

Extraction pol % pol in cane: 95.81

Boiling House Recovery efficiency, %: 91.09

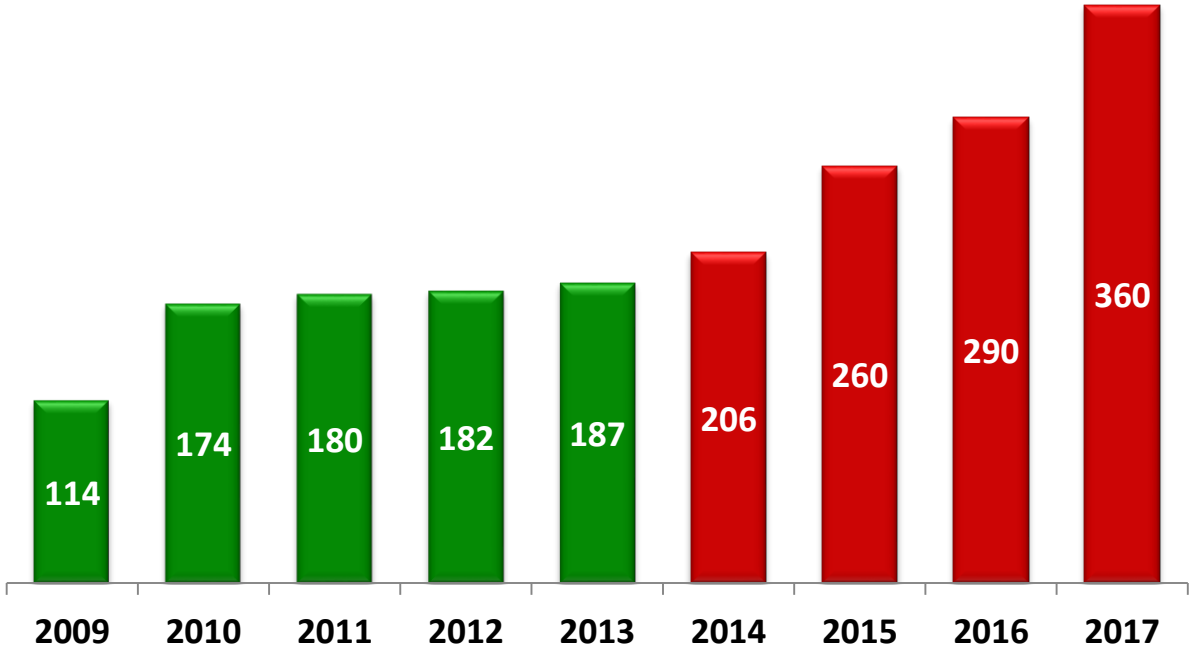
Overall Recovery Efficiency, %: 87.20

Colombia´s Fuel alcohol balance (2005 – 2013) (thousands of liters)



Source: Asocaña

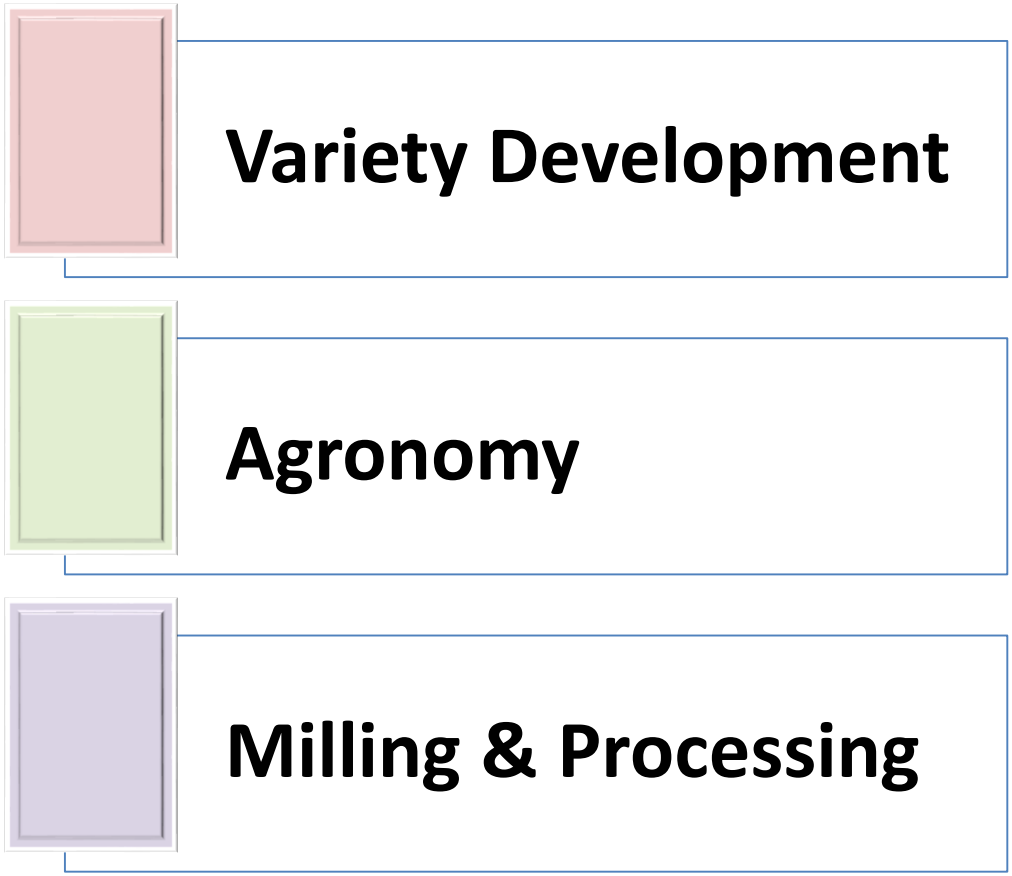
Cogeneration Installed Capacity (MW) Colombia



2014 – 2017. Estimated

Source: Asocaña

RESEARCH PROGRAMS



Research Programs

Varietal Development	Agronomy	Milling and Processing
• Breeding • Phytopathology • Entomology • Biotechnology	• Land preparation • Water management • Mechanization • Crop nutrition and soils • Cane ripening	• Technology validation • Research • Standardization • Microbiology • Energy • Training

Energy, Environmental issues, Climate change

FUNDING

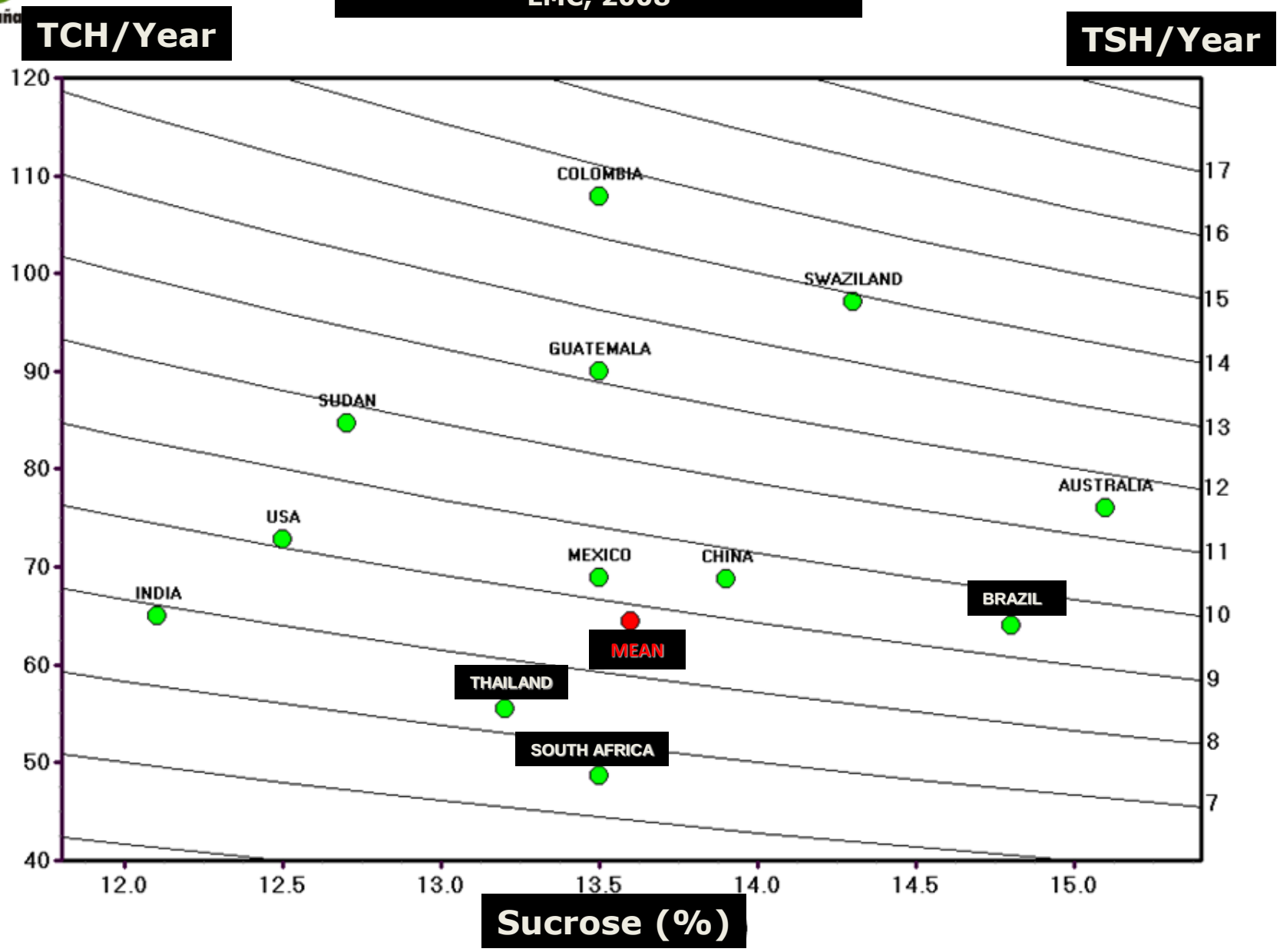
- Sugar mills
- Cane growers

0.65% total sale value of sugar and ethanol

Achievements

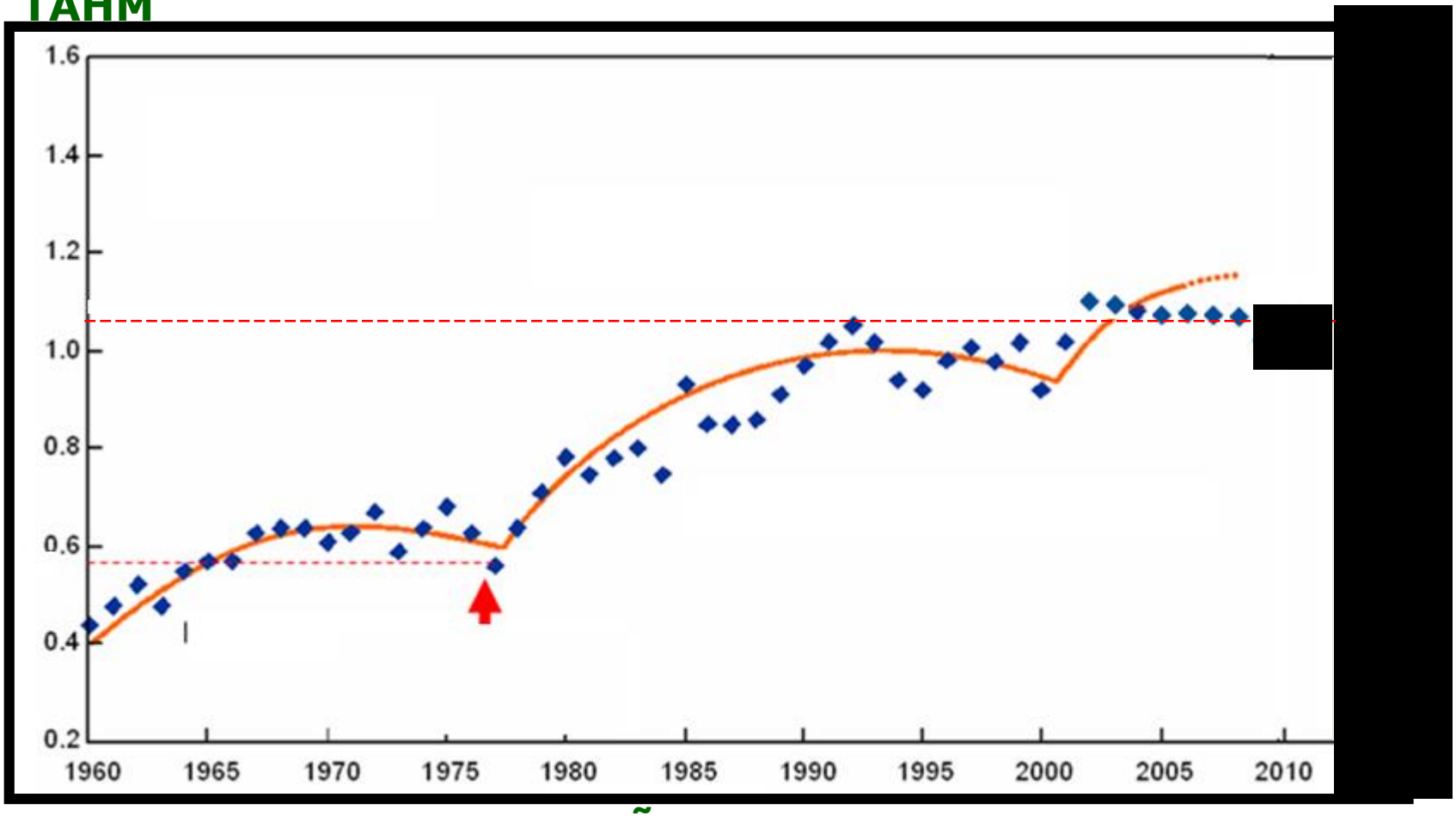
- World highest productivity.
- 90% area planted with local bred varieties.
- 50 % of reduction in water use.
- Site specific agriculture.
  - Soil and climate characterization→ AG_Zones.
  - Growers characterization.
  - Benchmarking.
- Software for mills settings calculations and energy and mass balance software.
- Strategies to reduce sucrose losses in Factory.

PRODUCTIVITY 2003-2007
LMC, 2008



cenicaña

TAHM



AÑOS

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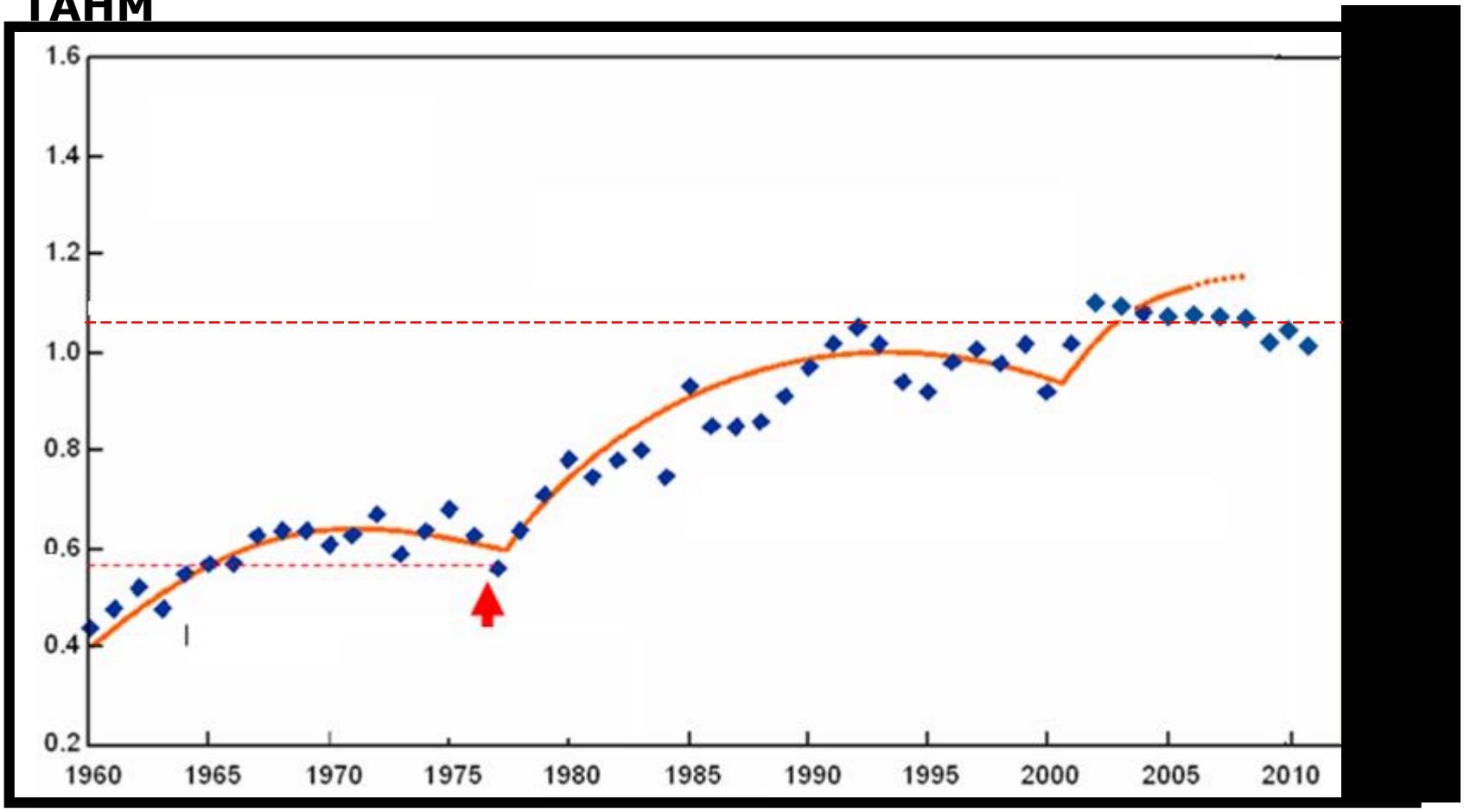

YEARS

Driven factors of the technological developments

1. Integration of the Sugar Industry
2. Priorities and goals
3. Funding
4. Technology development with participation of end users
5. Multidisciplinary approach
6. Technology transfer
7. Human resources

cenicaña

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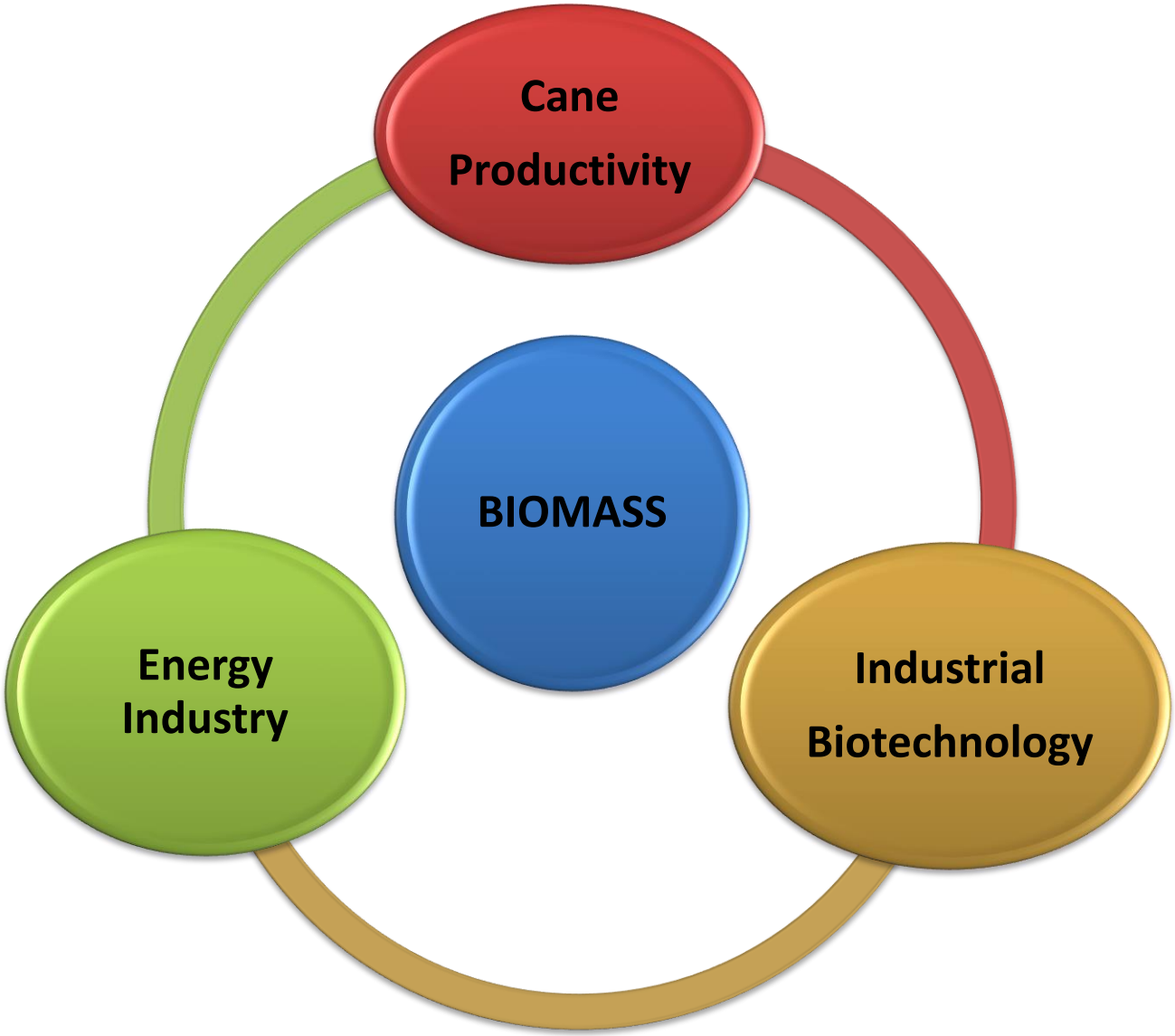
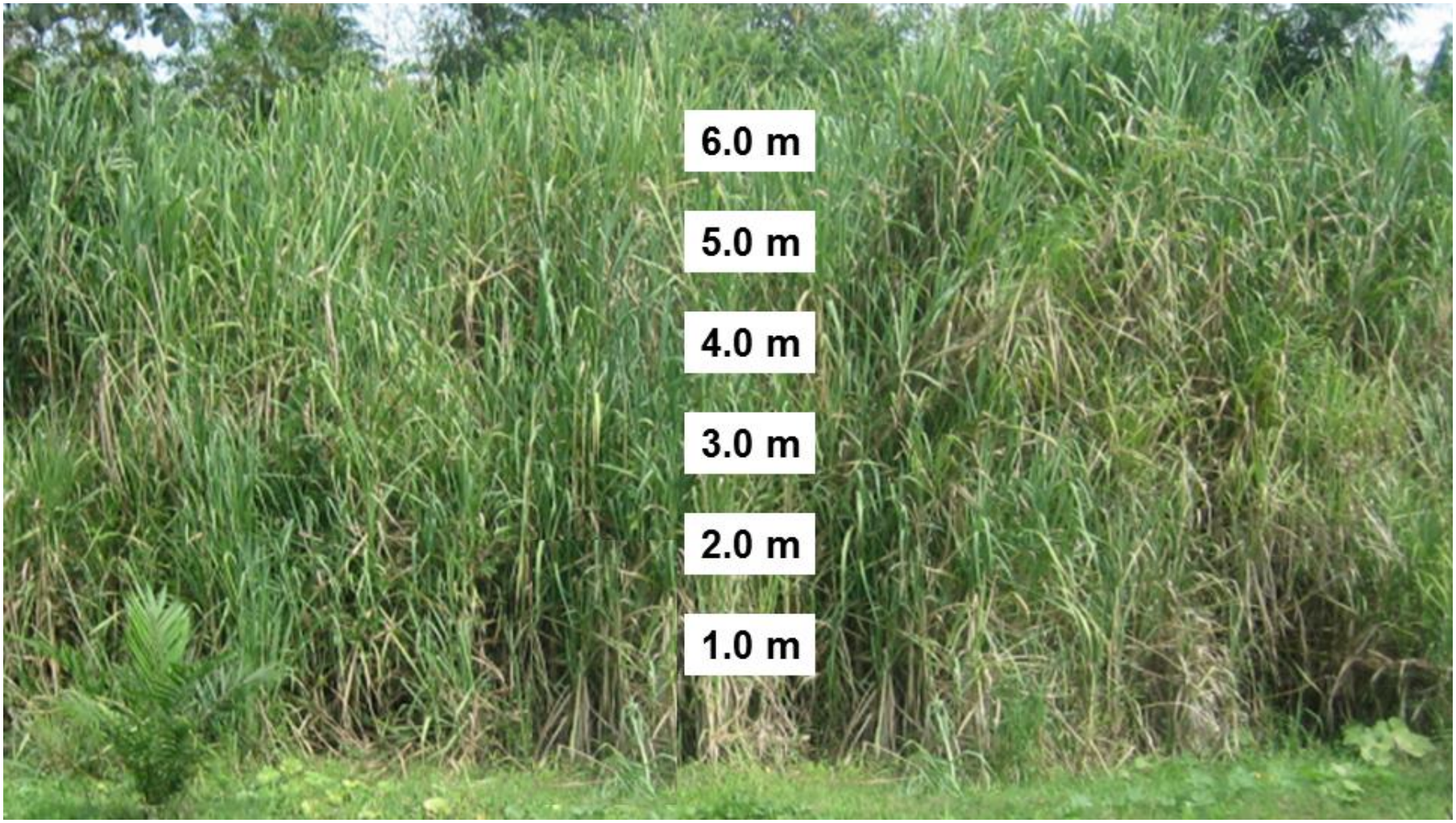

Cane
Productivity
BIOMASS
Energy
Industry
Industrial
Biotechnology

Type of variety for producing sugar today

Type of variety for Biomass & Energy production



CONCLUSIONS

- The investment on R & D generates solutions and benefits for the sugar industry, the region, and the country.
- Technological developments will be focused on sugar, energy, added value products and sustainability.
- Training and collaborative work with national and international partners will be of relevance in coming years

Thank you