

# Agave is a New Crude

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# One crop to rule sustainability

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- Agave is a semiarid crop than can provide fibers, beverages, water, biochemicals, and advanced biofuels and biomaterials.
- With 80% less water consumption and low fertilizers in 5 years Agave can:
  - Produce 880 tons/ha of biomass
  - Capture 385,4 tons/ha of CO<sub>2</sub>
  - Harvest 617,7 tons/ha of water

# Our goal

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To develop high-tech solutions from field to industry for a new Agave-based value chain, promoting sustainability for the Brazilian semiarid and preparing agriculture for climate change.



# Biotech field solutions



- New cultivars: introducing for the first time the tequila crop in Brazil, molecular markers, genomics, and the largest germplasm bank in the southern hemisphere.



- New biotechnology package: **in vitro mass propagation**, herbicide resistant GMO lines, plant disease control surveillance, and microbial stimulants.



- New management strategies: **precision agriculture** and mechanization.

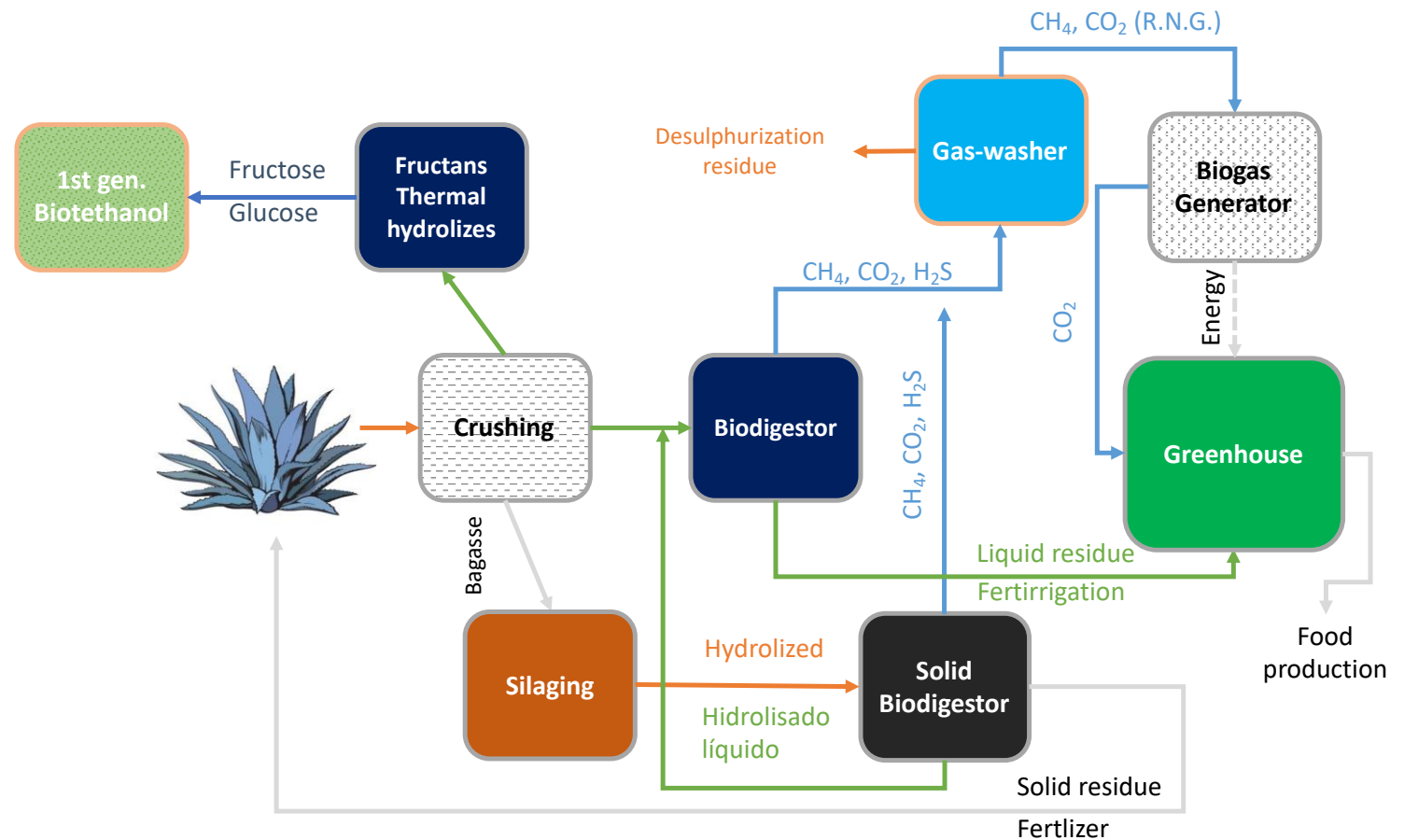
- Biobased products: production of 1G and 2G ethanol, **biogas** and **higher value-added bioproducts**.



\*Collaboration activities with Netherlands are in bold

# Developing a new semiarid industry

- Agave can use the same ethanol infrastructure as sugarcane
- Predicted ethanol yield 5-6.000 L /ha/yr
- LGE is developing new yeast strains for direct fructans fermentation
- Biogas, biohydrogen, DME, and biodiesel production also present great perspectives.



# Ongoing projects

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- Regular grant funded by FAPESP:  
Structuring a new Agave-based biogas production chain



2020/02524-0

- NEXUS research project funded by CNPq:  
Caatinga Sisal Integration



MINISTÉRIO DA  
CIÊNCIA, TECNOLOGIA,  
INOVAÇÕES E COMUNICAÇÕES

| Chamada MCTIC/CNPq Nº 19/2017 – NEXUS I: Pesquisa e Desenvolvimento em Ações Integradas e Sustentáveis para a Garantia da Segurança Hídrica, Energética e Alimentar nos Biomas Caatinga e Cerrado

- Sertão Bioenergy Initiative



**Sertão  
Biomassa**

# Our Team



**Prof. Dr. Gonçalo Pereira**  
*Genetics and Bioenergy*



**Prof. Dr. Gustavo Mockaitis**  
*Engineering and Microbiology of  
Anaerobic Digestion*



**Don Chambers**  
*AusAgave CEO*



**Fabio Raya, MSc.**  
*Molecular physiology and  
breeding*



**Marina Marone, MSc.**  
*Genomics and Molecular  
Marker Development*



**Frank Nadimi**  
*Business Development*



**Dr. Marcelo Carazzolle**  
*Bioinformatics*



**Dra. Isabela Andreotti**  
*In vitro culture of  
plant tissues*



**Maiki Soares de Paula**  
*Genetics of microorganisms  
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**Maria Fernanda  
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*Data science and  
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