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## Cachaca: A brief scenario of spontaneous fermentation of the Brazilian distilled spirit

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Cachaca is the Brazilian distilled spirit, produced by fermentation of sugarcane juice and subsequent distillation. Some cachacas have a story to tell, showing an intimate relationship with the surrounding environment, regional heritage and traditional practices. The artisanal production mainly relies on spontaneous fermentation processes and includes different exogenous sources of microbial populations to the must with fermentative cycles that usually last 18-30 hours with high incidence of autochthonous yeasts. Non-*Saccharomyces* yeasts usually present low fermentative performance but uncontrolled growth of these microorganisms can lead to dangerous levels of undesirable or harmful compounds. In well-driven processes, these microorganisms may contribute to flavor, reflecting typical characteristics of the product. Although these approaches may give rise to cachacas with higher aromatic complexity, they can lead to sluggish and stuck fermentations and give way to early spoilage by undesirable microorganisms. Healthy spontaneous fermentations may provide higher diversity environments, enabling yeast species to mainly act as a cluster and propitiate a richer floral, fruity character. Besides, recent climate anomalies show direct correlation to musts with unusual low assimilable nitrogen contents, leading to early dominance and persistence of less demanding yeasts and overgrowth of bacterial communities. Such conditions also seem to have induced microenvironments with low species' evenness and spoilage microorganism dominance. Our results have helped to better understand the role of the native microbiota and the impact of these players in the production of high quality cachacas, in addition to assist producers to adopt insightful agricultural, handling practices and strict control of technical guidelines.

### Biography

Caure Barbosa Portugal has completed his PhD in Enological Microbiology at the University of La Rioja, Spain (2012) and his Postdoctoral studies in the College of Agriculture 'Luiz de Queiroz' (ESALQ, University of São Paulo) in Piracicaba, Brazil. He is currently responsible for fermentation microbiology researches in the Laboratory of Technology and Quality of Beverages of ESALQ. He has published papers regarding fermentation processes in wine, beer and cachaca, focused in spontaneous fermentations, non-conventional yeasts and microbial control of beverages.

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