

CHARACTERIZATION OF BRAZILIAN TABLE WINES FROM AMERICAN VARIETIES.

Maíra Rodrigues Uliana, José Maria Oliveira, José António Teixeira and Waldemar Gastoni Venturini Filho
IBB – Institute for Biotechnology and Bioengineering, Centre of Biological Engineering, Universidade do Minho,
Campus de Gualtar, 4710-057 Braga, Portugal.
E-mail: mruliana@deb.uminho.pt

KEYWORDS

Chemical analysis, aroma analysis, sensory analysis.

INTRODUCTION

The Brazilian wine industry has a remarkable characteristic that distinguishes from other markets. While the foreign market only accepts products originating from European varieties (*V. vinifera*), in Brazil, products originating from American varieties (*V. labrusca* and *V. Bourquin*) and hybrids are also accepted.

According to Brasil (2004), table wine is "the wine with an alcohol content of 8.6% to 14% by volume, and may contain CO₂ up to 1 atm (20° C)", and table wine of Americans is "the wine made with grapes from the group of American grapes and/or hybrid, and may contain *Vitis vinifera* varieties."

Currently in Brazil, about 75% of vineyards area for wine processing consists in American varieties and hybrids. European cultivars represent about 25% of area for wine processing (Guerra and Barnabé 2005).

OBJECTIVE

The objectives of this study are to characterize wines from American grape varieties produced in Brazilian wineries by chemical classical analysis and volatile composition; additionally, sensory analysis by the acceptance test and descriptive test will be carried out.

MATERIAL E METHODS

Dry and sweet varietal wines from red grapes varieties "Bordô", "Isabel" and "Máximo" and white grapes varieties "Niágara" and "Lorena" will be used.

The varietal wines "Bordô", "Isabel" and "Niágara" were provided by wineries located in Brazilian Southern Mountains (Serra Gaúcha), city of Flores da Cunha, Rio Grande do Sul, Brazil. The varietal wines "Lorena" were also from Brazilian Southern Mountains (Serra Gaúcha), but the city is Caxias do Sul, Rio Grande do

Sul, Brazil. The "Máximo" varietal wines were from the west-center of São Paulo State, city of Lençóis Paulista, São Paulo, Brazil.

The chemical analysis to be performed are: total, volatile and fixed acidity, alcohol (by distillation), density, pH, dry extract (indirect method), reduced dry extract, ratio alcohol/reduced dry extract, total and reducing sugars, free and total sulfur dioxide, polyphenols, color intensity, tonality and turbidity to be held in Food Science and Technology Laboratory, Centre of Biological Engineering, University of Minho, Braga, Portugal.

Volatile compounds will be analyzed by gas chromatography coupled with flame ionization and mass spectrometry detectors, in the Chromatography Laboratory, Centre of Biological Engineering, Minho University, Braga, Portugal.

Sensory analysis will be made firstly by the acceptance test by Hedonic Scale Test and then, will be held the description test by Quantitative Descriptive Analysis (QDA). The sensory analysis will be performed at the Laboratory of Beverages, Agro-industrial Management and Technology Department, Agronomic Sciences Faculty, Universidade Estadual Paulista, Botucatu, Brazil, as mentioned earlier, the Brazilian public has a different characteristic of the world majority.

REFERENCES

- Brasil. 2004. Ministério da Agricultura. "Lei nº 10.970, de 12 de novembro de 2004". Altera dispositivos da Lei nº 7.678, de 8 de novembro de 1988, que dispõe sobre a produção, circulação e comercialização do vinho e derivados da uva e do vinho, e dá outras providências. *Diário Oficial da União* de 16/11/2004, Seção 1, Página 1.
- Guerra, C. C. and Barnabé, D. 2005. "Vinho". In: Venturini Filho, W. G. (coord.) *Tecnologia de Bebidas: matéria-prima, processamento, BPF/APPCC, legislação, mercado*. 1ª ed. São Paulo: Edgard Blucher, Cap. 17, p. 423-451.

AUTHORS BIOGRAPHIES

MAÍRA RODRIGUES ULIANA was born in Tietê, Brazil and studied Agronomic Engineering (2001 - 2005) in Agronomic Sciences Faculty, Universidade Estadual Paulista, Botucatu campus. She began his master's degree in 2007 at that same university, by Agronomy course, concentration area Agriculture Energy, getting her title in 2009. This same year she entered to the PhD program at the same institution and now is currently Erasmus Mundus student (sandwich doctoral) at the Minho University in order to perform part of their research with wines.

JOSÉ MARIA OLIVEIRA is graduated in Biological Engineering (University of Minho – UM; 1991) and PhD in Biological and Chemical Engineering (UM; 2001). Presently, is Assistant Professor at Department of Biological Engineering and Researcher at IBB – Institute for Biotechnology and Bioengineering, Centre of Biological Engineering, Universidade do Minho, Campus de Gualtar, 4710-057 Braga, Portugal. The main areas of interest are: varietal characterization and discrimination of cultivars based on grape composition (free volatile & precursors); study of the influence of winemaking procedures on the quality of the final product, namely volatile compounds, color and sensory attributes and; development of instrumental methods of analysis to identify and quantify volatile compounds of fermented beverages.

JOSÉ ANTÓNIO TEIXEIRA is graduated in Chemical Engineering (FEUP; 1980) and PhD in Chemical Engineering (FEUP; 1988). Presently, is Full Professor at IBB – Institute for Biotechnology and Bioengineering, Centre of Biological Engineering, Universidade do Minho, Campus de Gualtar, 4710-057 Braga, Portugal. The main areas of interest are: Biological Reactors, Downstream Processing, Food Technology, and Heavy Metal Removal.

WALDEMAR GASTONI VENTURINI FILHO is graduated in Agronomic Engineering (ESALQ/USP; 1979); master in Food Technology (USP; 1986), PhD in Agronomic (UNESP/Botucatu; 1993) and post-PhD in Université de Montpellier II and Centre Internationale de Recherche Agronomiq (1999). Presently, is PhD Assistant Professor at Universidade Estadual Paulista/Botucatu; Periodical Review of “Revista Raízes e Amidos Tropicais” (Online); Periodical Review of “Energia na Agricultura”; Periodical Review of “Ciência e Tecnologia de Alimentos”; Periodical Review of “Brazilian Journal of Food Technology” (ITAL); Periodical Review of “Científica” (São Paulo); Periodical Review of “STAB” (Sociedade dos Técnicos Açucareiros e Alcooleiros do Brasil); Periodical Review of “Ciência e Agrotecnologia” (UFLA) and Periodical Review of “Alimentos e Nutrição” (UNESP/Marília).