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Statistical techniques for sensorial characterization of wines from three different grape varieties of Vinho Verde Region.

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ABSTRACT

Vinho Verde is a table wine produced in the Demarcated Region of Vinho Verde in northwestern Portugal. It is distinguished by its freshness, lightness and its unique fruity aromas, low alcohol and notorious typicality.

The region of Vinho Verde contains a large number of grape vines indigenous varieties, these have an aroma, flavor and peculiar color, defining their origin. Among the most important are the Alvarinho, Arinto and Loureiro [1].

For the study of the organoleptic characteristics of these three grape varieties, sensory analysis is critical [2]. Therefore the main goal of this work was to develop a methodology of sensory analysis to study the characteristics of Alvarinho, Arinto and Loureiro monovarietal wines and recruit, select, train and qualify an internal tasting panel of Aveleda S.A. Company in order to get possible playback results when carrying out sensory tests. For this purpose, 17 wines were evaluated (4 from Arinto variety, 6 from Alvarinho and 7 from Loureiro) and its sensory descriptor scored with an ordinal scale from 1 to 5.

To characterize the sensory profile of the wines, given the nature of the variables (ordinal variables) and the dimension of the sample, nonparametric techniques such as Categorical Principal Components Analysis (CATPCA) and non-parametric MANOVA were used [3].

At the end of this study we found that there are common descriptors to more than one grape-variety. The attributes common to all grape-varieties are: yellow, clean, floral aroma, citrus aroma, apple flavor, sweet, sour, bitter, persistence, body and sense of balance. In the case of aromas, the three varieties have in common floral aroma, citrus and apple aromas. Alvarinho and Loureiro share the aromas of tropical fruit and vegetable. There were also found in these last two varieties of the flavor vegetable notes and tropical fruits.

Keywords: Vinho Verde wine descriptors, sensory evaluation, CATPCA, nonparametric MANOVA.

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