

Taking Port Wine aroma all over the world: *Construction of a Tawny Port Wine-like fragrance*

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Abstract

A unique wine landscape was created almost two millennia ago on the slopes of the Douro River valley and its tributaries, creating a wine marked by a deep articulation between tradition and modernity. Port Wine is the ultimate expression of the RDD's history, cultural heritage of work, experience and art. Tawny Port Wine is aged in barrels and is characterized by aromas of dried fruits, honey, wood and toasted vanilla. Consumers everywhere are becoming more knowledgeable and curious and therefore more likely to be attracted to wines such as Port which represent genuine quality and tradition and which have fascinating stories to tell. To raise and keep alive one of the richest products of the Douro region, the aim of the present work was to develop a Port Wine Tawny fragrance, the first according to the literature.

A sensory panel was trained and 6 aromatic descriptors were selected; the most significant of Tawny Port Wine: alcohol, nuts, spices, wood, sweet/honey and dried flowers. To these descriptors were assigned 7 aromatic compounds, and fragrances were developed with the contribution of the panel. There were selected 3 fragrances, developed with only 3 aromatic compounds: benzaldehyde, sotolon and vanillin.

Then, the consumer's acceptability of the newly composed fragrances was studied and the optimization of their characteristics, through JAR scale, was evaluated. Positive classification was obtained from 3 fragrances. Male subjects assigned higher ranks and had preference for fragrance 1 with statistically significant ($F(1,135) = 18,041, p < 0.001$). Consumers consider that the intensity of Port aroma its ideal in 3 fragrances. However, the color is considered not very intense. The use of the 3 compounds (benzaldehyde, sotolon and vanillin) appears to be enough to obtain a fragrance of Tawny Port Wine. The preferred fragrance was further applied in a cosmetic product.

Keywords

Port-Wine fragrance, benzaldehyde benzaldehyde, sotolon and vanillin, sensory analysis, MANOVA, consumers acceptability and choice