



Invited Speaker 24

Development of New Technologies for the Ageing of Wine Spirit

S. Canas

Instituto Nacional de Investigação Agrária e Veterinária, INIAV-Dois Portos, Quinta da Almoinha, 2565-191 Dois Portos, Portugal.

ICAAM – Instituto de Ciências Agrárias e Ambientais Mediterrânicas, Instituto de Formação e Investigação Avançada, Universidade de Évora, Núcleo da Mitra, 7000 Évora, Portugal.

The freshly distilled wine spirit has a high concentration of ethanol and richness of volatile compounds, but is devoid of phenolic compounds other than volatile phenols. Therefore, the wood contact during the ageing process is crucial to the beverage's enrichment in wood compounds namely those of phenolic nature, which are positively correlated with quality. The underlying changes are closely related to the action of factors ruling the ageing process such as the ageing technology (traditional and alternative) and the kind of wood used [1]. Traditional technology consists of ageing in wooden barrels. Despite the high quality achieved by the wine spirit, it is a time-consuming and costly process, and the capital invested in wine spirit and wood is immobilised for a long period. Besides, it involves the use of a large amount of a natural resource, the wood, whose availability is limited. For these reasons, alternatives have been searched toward ageing sustainability. This challenge has been the main driver of pioneering research conducted by our team in the last 12 years, based on the *Lourinhã* wine spirit. In this communication, an overview of such investigation is presented, highlighting the impact of new ageing technologies using wood pieces in the beverage stored in stainless steel tanks on the phenolic composition and related features of the aged wine spirit [2, 3].

Keywords: wine spirit; ageing technology; physicochemical characteristics; sensory properties.

1.Canas, S., Phenolic composition and related properties of aged wine spirits: Influence of barrel characteristics. A review. *Beverages*, 2017. 3(4) 55-76.

2.Canas, S., Caldeira, I., Anjos, O., Lino, J., Soares, A., Belchior, A.P., Physicochemical and sensory evaluation of wine brandies aged using oak and chestnut wood simultaneously in wooden barrels and in stainless steel tanks with staves. *International Journal of Food Science and Technology*, 2016. 51(12), 2537-2545.

3.Canas, S., Caldeira, I., Anjos, O., Belchior, A.P., Phenolic profile and colour acquired by the wine spirit in the beginning of ageing: alternative technology using micro-oxygenation vs traditional technology. *LWT – Food Science and Technology*, 2019. 111 260-269.

The author thank Adega Cooperativa da Lourinhã and Tanoaria J. M. Gonçalves (Palaçoulo, Miranda do Douro) for the technical support. The author also thank the financial support of the Project CENTRO-04-3928-FEDER-000001.