

ASSESSMENT OF THE BOTTLE STORAGE CONDITIONS ON THE VOLATILE COMPOSITION AND SENSORIAL CHARACTERISTICS OF WHITE WINES

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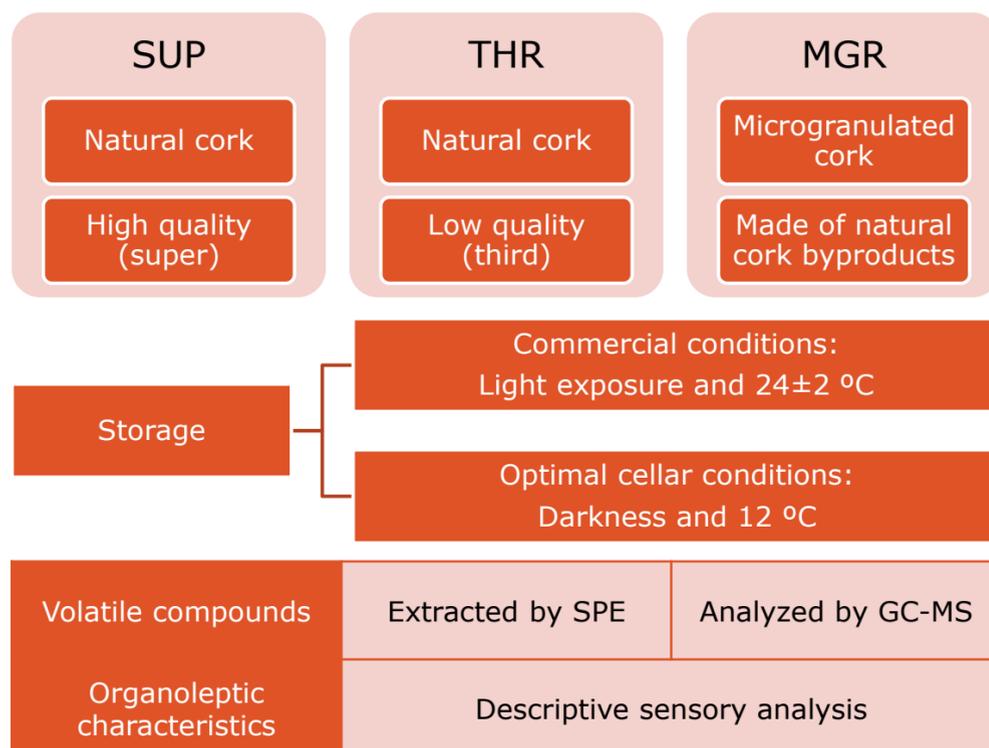
INTRODUCTION

The quality of bottled white wines is highly influenced by their storage conditions, mainly temperature, and exposure to light and oxygen (1). Oxygen considerably decreases the quality of white wines, whose exposure is related to the diffusion of oxygen through the cork and to the physiological release of oxygen from cork pores during its insertion. The storage temperature influence the kinetics of the chemical reactions during wine aging; a wine can experience high temperatures in aging, transport, storage or sale, sometimes combined with light exposure in retail outlets.

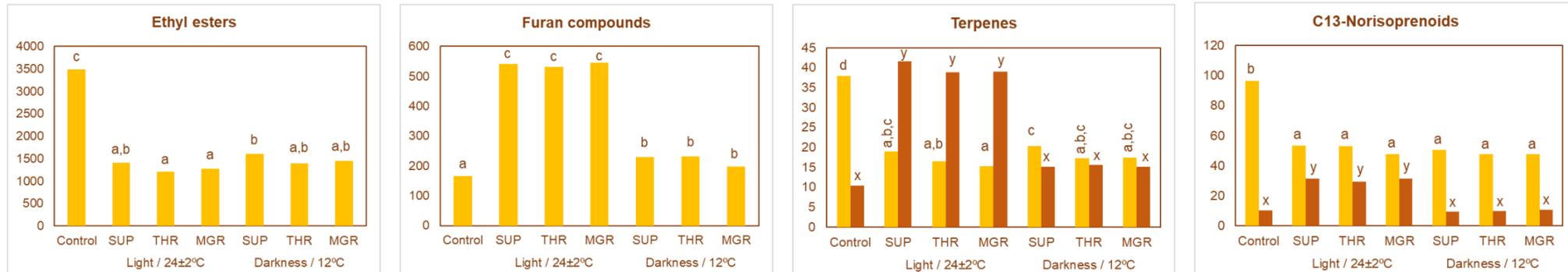


Objective → To study the effect of different storage conditions on the volatile composition and sensorial characteristics of a white wine.

MATERIALS & METHODS



RESULTS



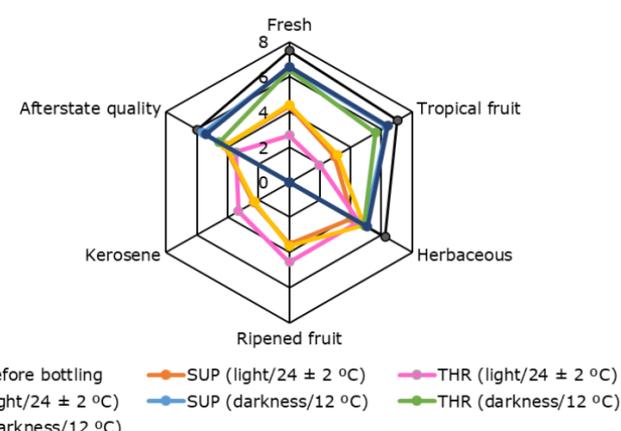
- Important decrease in ethyl esters occurred in all bottled wines, while furan compounds significantly increased in wines stored under commercial conditions.
- Varietal terpenes also decreased in all the stored wines, although an increase in linalool oxides was observed in wines stored with light at room temperature.
- β-damascenone and 3-oxo-α-ionol decreased during storage, regardless conditions; vitispirane and TDN increased in wines stored under commercial conditions.

- Wines stored in darkness retained sensory attributes from wine before bottling, although their intensity decreased slightly.
- Ripened fruit and kerosene attributes were found in commercial stored wines, with lower intensity in high-quality corks sealed wines.
- Aftertaste quality in optimal stored wines has a similar score to wines before bottling, and higher than wines stored under commercial conditions.

CONCLUSIONS

The quality of the white wines stored under commercial conditions decreased considerably after one year of storage, mainly due to the premature development of chemical and sensorial aged-type characters.

SENSORIAL ANALYSIS



(1) Díaz-Maroto et al. (2021). *Molecules*, 23, 232.

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