

IMPACT OF CLOSURES ON AROMA OF GODELLO AND TORRONTÉS WHITE WINES POST-BOTTLING

INTRODUCTION

Aromatic composition contributes mainly to the quality aroma of white wine. A natural and gradual evolution of the aroma in the bottle occurs over storage with a very low oxygen content. During storage, volatile compounds change as a result of the occurrence of numerous reactions. These chemical and physical processes are influenced by the type and quality of the closures, storage conditions (temperature, light exposure or relative humidity), packaging, etc. [1].

Traditional winemaking mostly uses cork closure, but new natural or synthetic closures have been reported as solution to eliminate some disadvantages of natural corks and can be suppose an alternative stoppers for the wine industry [2].

Several studies have evaluated the impact of different closures on the aroma of some white wine varieties, such as Chardonnay [3], Semillon [4], Sauvignon blanc [5], Verdejo [6], etc.

This study aimed to show the evolution of wine aroma attributes of two white varieties stopped with different closures after two years of bottle storage.

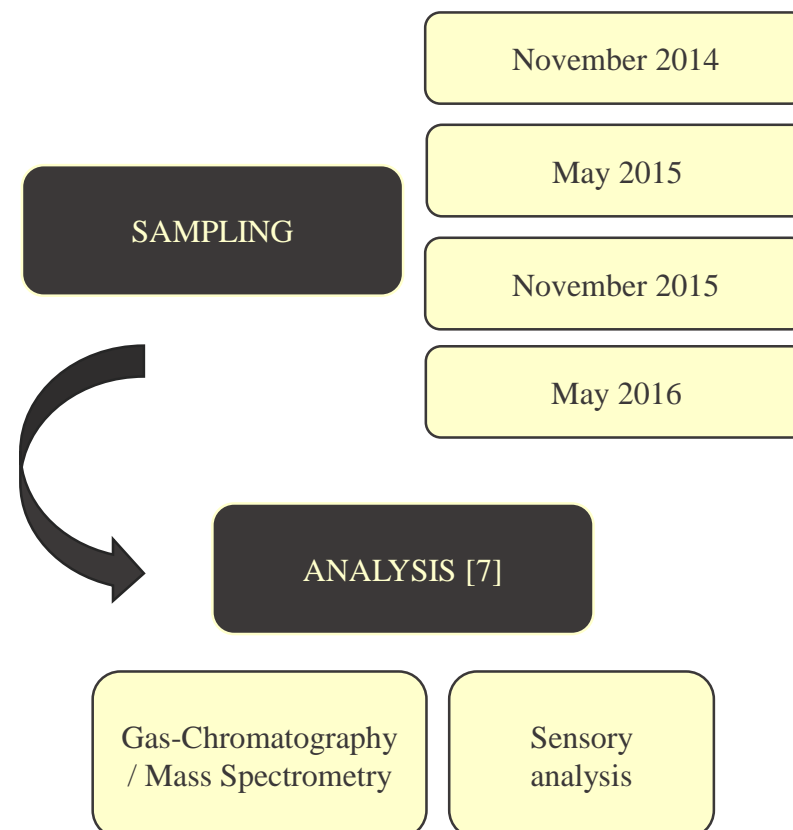
MATERIALS AND METHODS

VINTAGE 2013



Godello

Torrontés



Bottles were closed with three different closures:

- Natural cork
- Micro-agglomerated cork
- Synthetic stopper.

RESULTS

Wines from the two varieties showed different aromatic profiles, but their evolution during bottle-storage were similar. As expected, the chemical evolution was characterized by decreases of the acetates and ethyl esters contents, and increases of other volatile compounds such as diethyl succinate or volatile phenols [7].

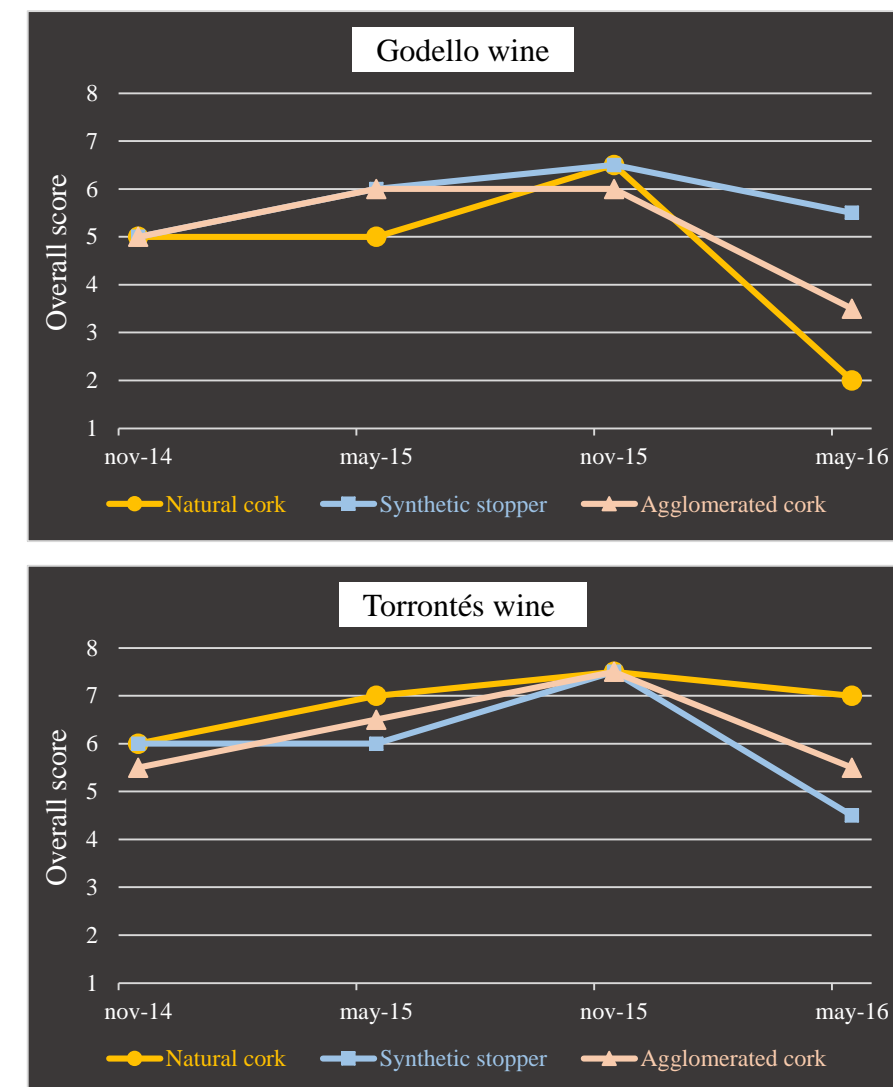


Figure 1. Sensory evaluation (global punctuations) of Godello and Torrontés wines aged in bottles during two years and stopped with different closures.

Changes in sensory evaluation were also took place, altering the sensory profile of both wines (Figure 1), changing from fruity and floral notes (higher in November-2015, third sampling) to toasty and spicy nuances.

The preference of type of closure was different according to the storage-time. For this reason, the choice of closure type is crucial to preserve the wine aroma quality and to predict their shelf life.

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