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The wine service : last act in favor of tasting

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Introduction

The wine service is the last act to enhance wine. This is the interface between the product created by the winemaker and oenologist on the one hand and the consumer on the other hand. This study aims to draw up an inventory of the practice of wine service through 3 complementary works. The first part is about the decanting time of a wine. The second focuses on the oxygen saturation of a wine. Finally the third speaks of the role of the agitation of the glass.

Material & Methods

A first part was focused on the carafage of wine. Based on a questionnaire filled by more than 70 sommeliers, different types of red and white wines were chosen. A methodology has been developed (with the wine “Pas de Trois” who is a blended wine of Merlot, Cabernet franc, Syrah and Gamaret). Decanting times ranging from 0 hours to 24 hours have been set for each wine. Thus, 5 variants per wine were sensory and analytically measured.

For the second study on the carafage of wines, but with stirring carafes, oxygen consumption kinetics were measured. Different forms of carafes were used to observe the impact on the oxygen consumption kinetic. Sensory tests were done to evaluate the influence of the number of saturation of oxygen.

A final study was on the agitation not of the carafe but of the glass. Indeed, several wines were analyzed and for each wine two conditions were applied. The first was a sensory profile without agitation and the second one was the same sensory profile with agitation of the glass. In these two conditions, panelists didn't could touch the glass but only smell it and scored the wines on the attributes.

Results

For the first part, significant differences were found after a triangular test between a wine in the bottle opened and the same wine after decanting. Another significant differences were observed on several descriptors for the same wine with different durations of carafage. However, variations were observed between the wines. There was no consensus between the types of wine.

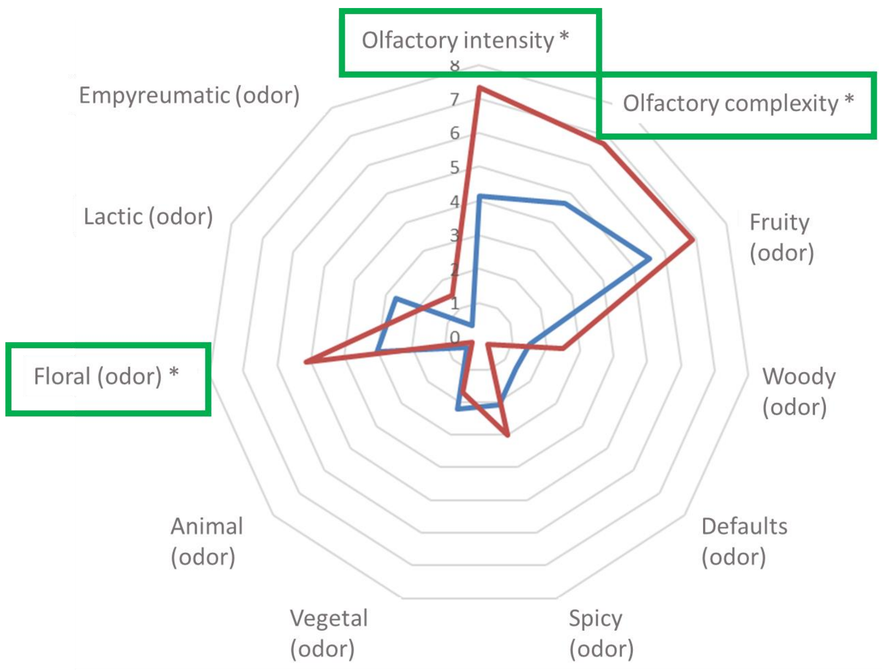

Figure 2. Spider plot for the wine “Sauvignon Blanc” and the average intensity of the descriptors after the sensory profile. * indicates significant difference at 5% level between the two products.

Finally, the results of the third part showed significant differences in the sensory profile of several types of wine including white wines figure 2). A glass of stirred wine has a much higher dissolved oxygen content than unstirred glass (figure 3a and 3b).

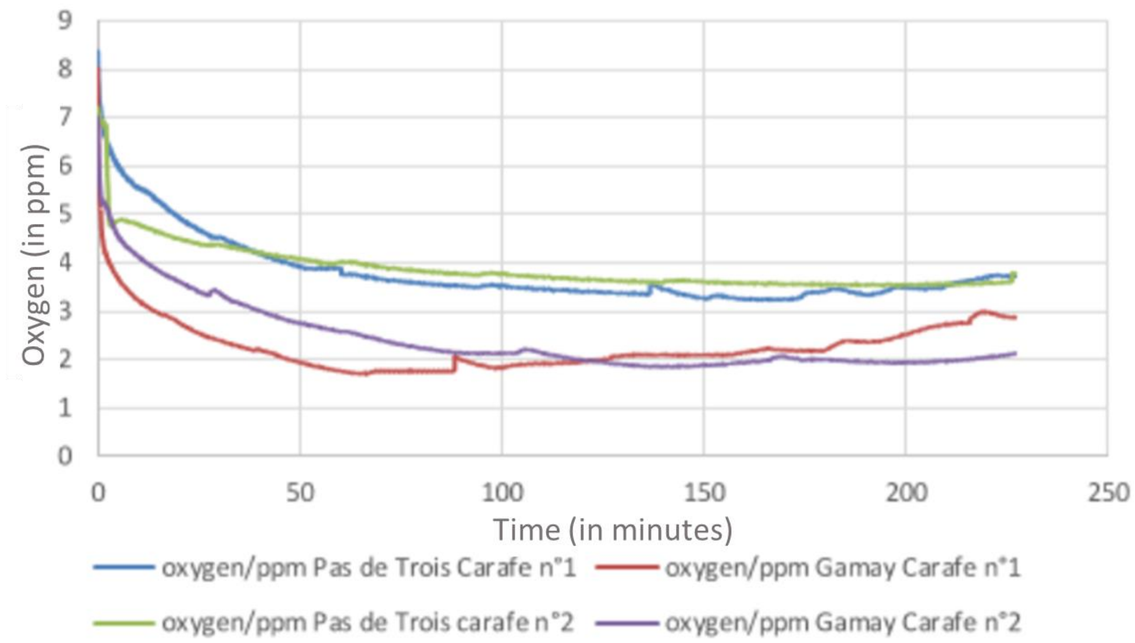

Figure 1. Consumption of oxygen in ppm during time (minutes). In blue/green, wine n°1 *Pas de Trois” with different shapes of carafe (n°1 and n°2). In red/violet, wine n°2 (“Gamay”) with different shapes of carafe (n°1 and n°2).

For the second part, the shape of the carafe and the type of wine have a significant impact on oxygen consumption (figure 1). Sensorially, significant differences were observed between a wine from a stirred carafe and an unstirred wine. Significant differences of 5% on the "empyreumatic" and "olfactory intensity" descriptors were observed on a Gamay (vintage 2013) red swiss wine between a base wine and this wine saturated with oxygen.

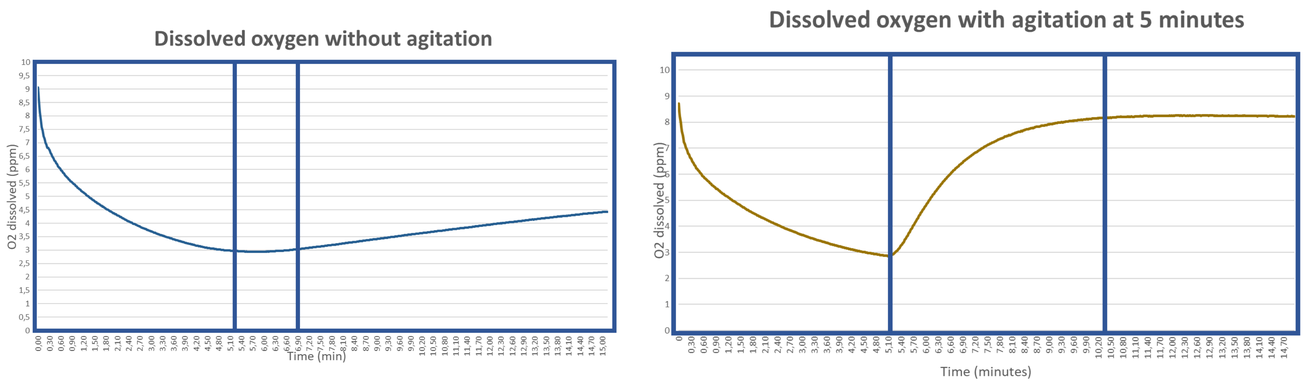

Figure 3a and 3b. Consumption of oxygen in ppm during time (minutes) for the unstirred glass (3a) and for the stirred glass (3b).

Conclusion

- Further analysis on other matrices of wines could confirm these results by modifying the carafe time or by considering the shape of the glass or carafe.
- Principles of wine service are not controlled yet, especially while new products are present on the market, such as wine aerators or connected carafes.

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