

# EFFECT OF DIFFERENT WINEMAKING TECHNIQUES AND GRAPE VARIETY ON CHEMO-SENSORY PARAMETERS OF WHITE WINES

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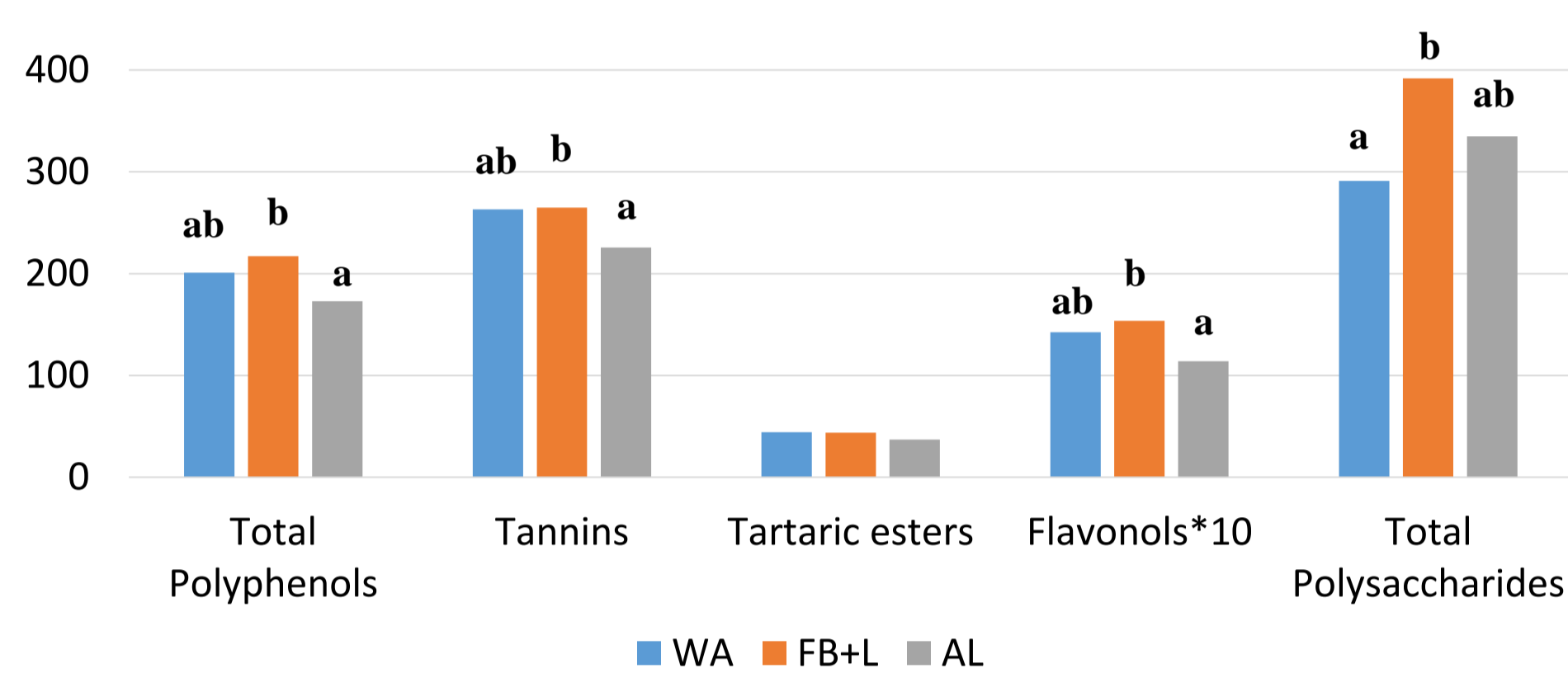


- **OBJECTIVE:** Study the chemical and sensory parameters of fifty commercial white wines elaborated with different techniques (fermented in oak barrel and aged on lees (FB+AL); aged on lees (AL); and without aging (WA)) and different grape varieties (*Verdejo*, *Sauvignon Blanc* and *Godello*).
- **ANALYTICAL METHODS:** Classical enological parameters, phenolic families, polysaccharides, volatile groups and sensory attributes were analyzed.
- **STATISTICS:** Analysis of variance (ANOVA) was carried out using the Statgraphics Centurion XVIII program.

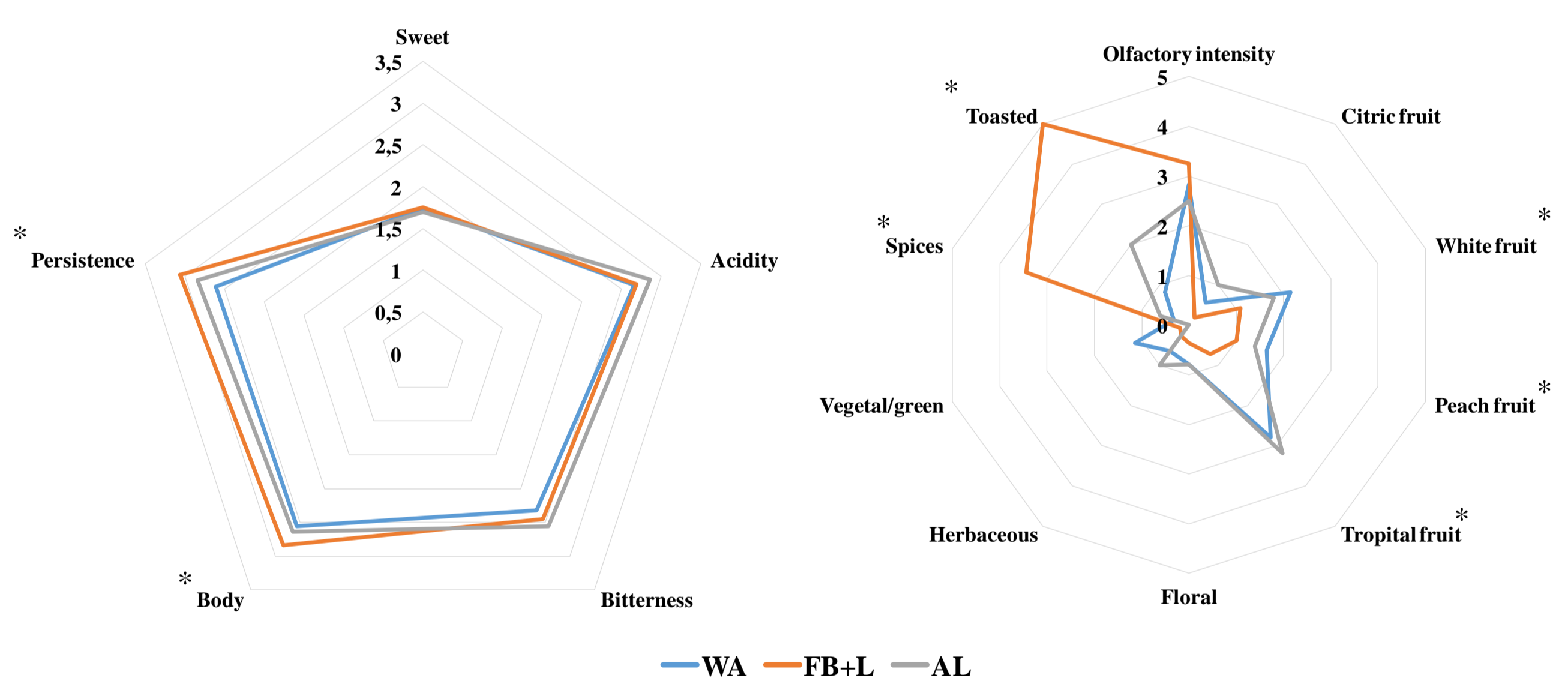
## RESULTS IN WINES ELABORATED WITH DIFFERENT WINEMAKING TECHNIQUES

In general, the FB+AL wines had the highest content of the different phenolic families studied and the AL wines the lowest. In the FB+AL wines also highlighted the highest total polysaccharide content and acidity and WA ones the lowest.

Polyphenolic and polysaccharidic content (mg/L) of the wines elaborated with different winemaking techniques

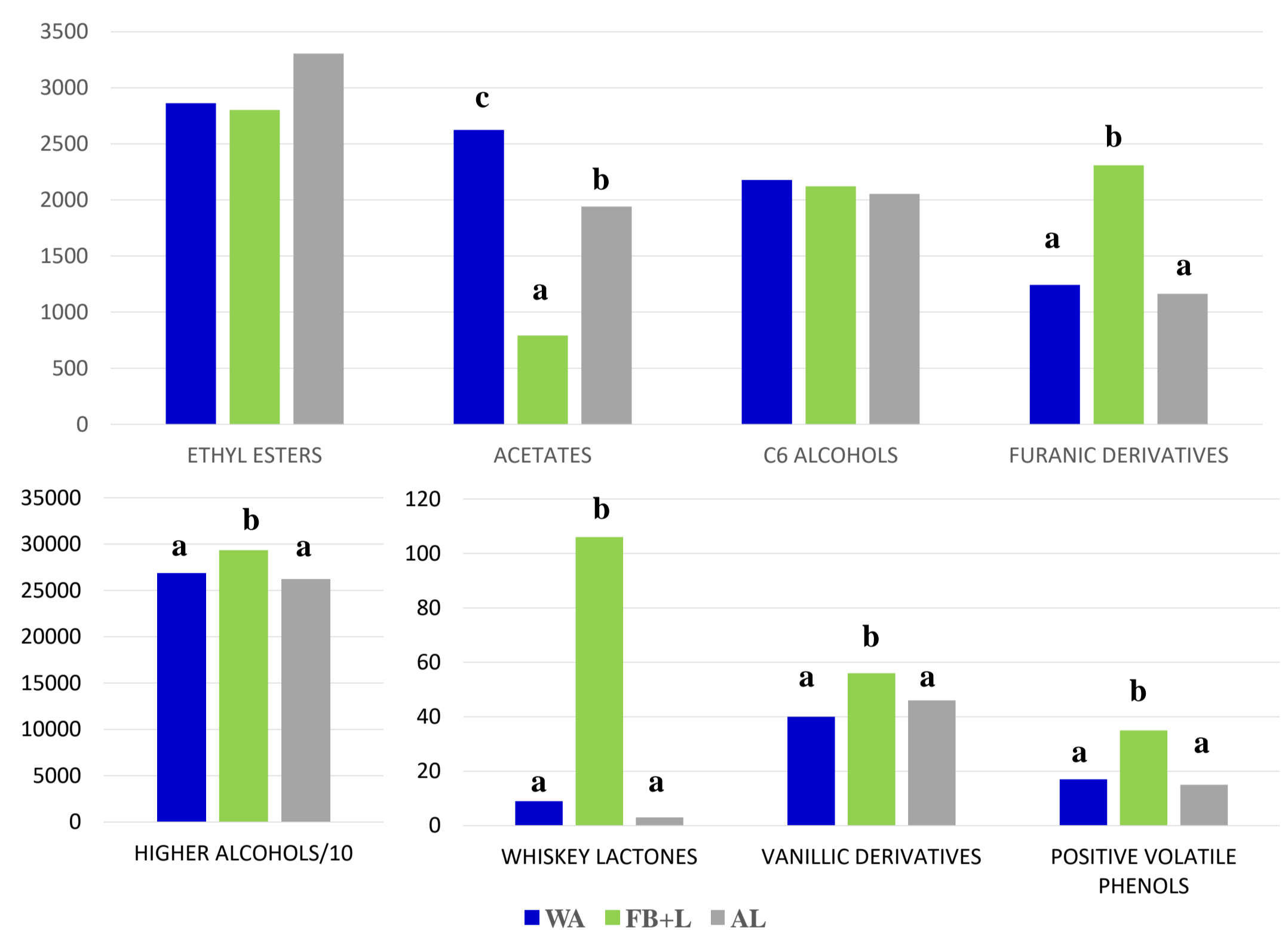


Sensory differences were found between the wines elaborated with different techniques. The FB+AL wines showed the highest values of the olfactory intensity, followed by the WA and AL ones, mainly due to the difference found in the white and tropical fruits and spice and toasted aromas. The FB+AL wines were better valued in body and persistence attributes than the WA ones.



The FB+AL wines showed the highest concentration of higher alcohols and those volatiles which come from the oak wood (whiskey lactones, vanillic and furanic derivatives), and positive volatile phenols. The AL and WA wines were characterized by their higher content of alcohol acetates than FB+AL wines.

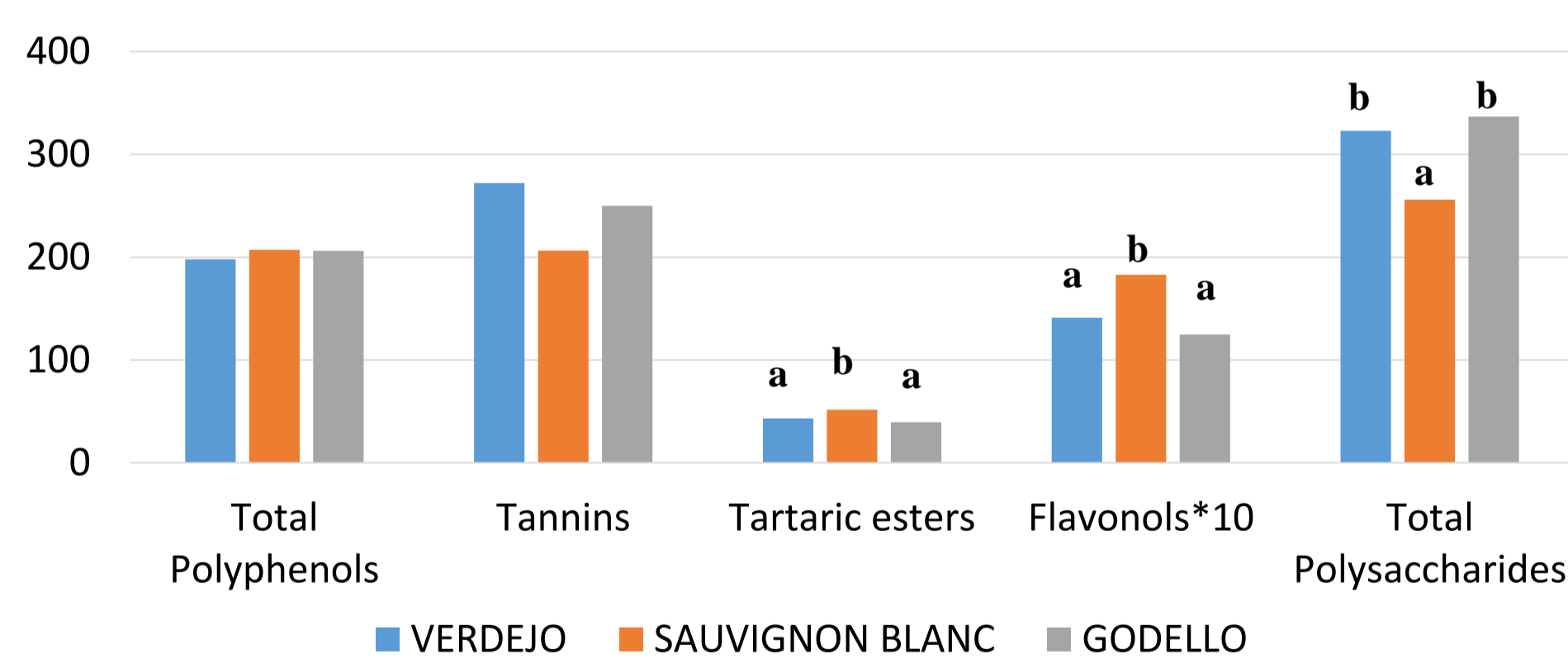
Volatile compound groups (µg/L) of the wines elaborated with different winemaking techniques



	WINEMAKING TECHNIQUES			GRAPE VARIETIES		
	WA	FB+AL	AL	VERDEJO	SAUVIGNON BLANC	GODELLO
Ethanol (% v/v)	13.0	13.4	12.9	12.9 a	13.1 ab	13.6 b
Total acidity (g/L)	5.42 a	5.81 b	5.76 ab	5.53	5.34	5.65
pH	3.20	3.12	3.01	3.12	3.32	3.17

## RESULTS IN WINES ELABORATED WITH DIFFERENT GRAPE VARIETIES

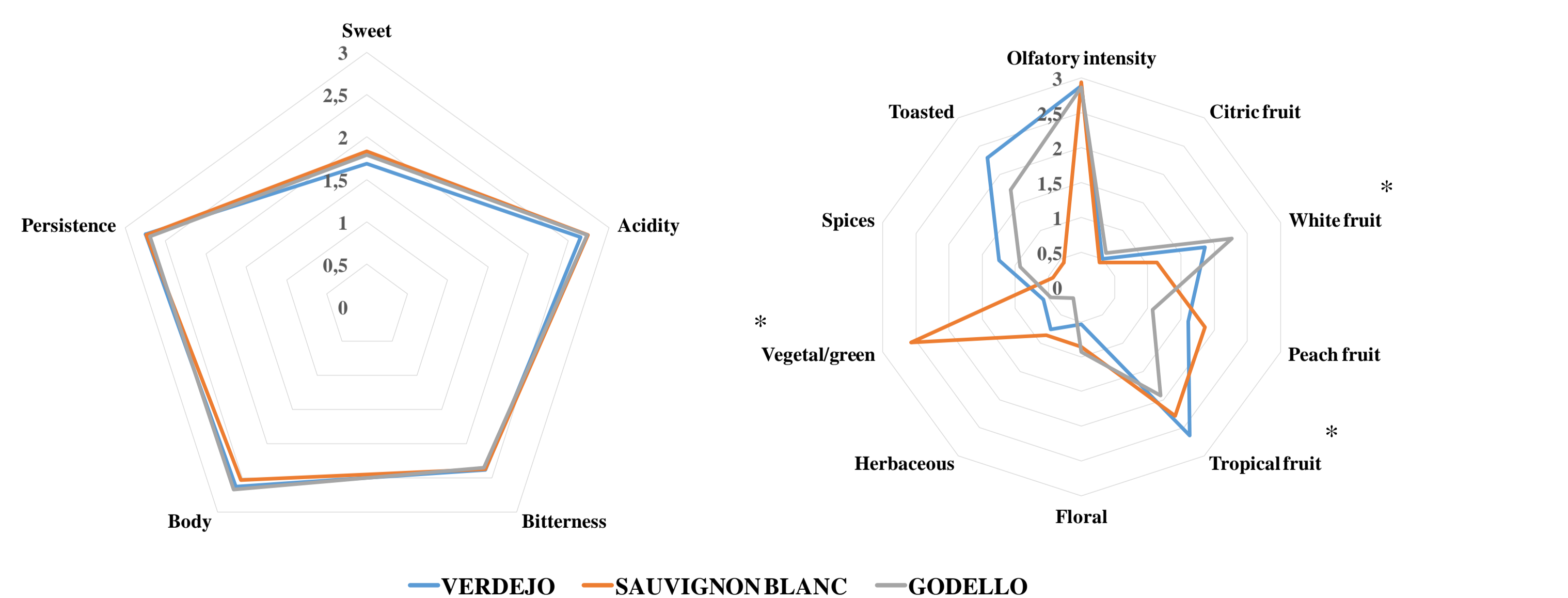
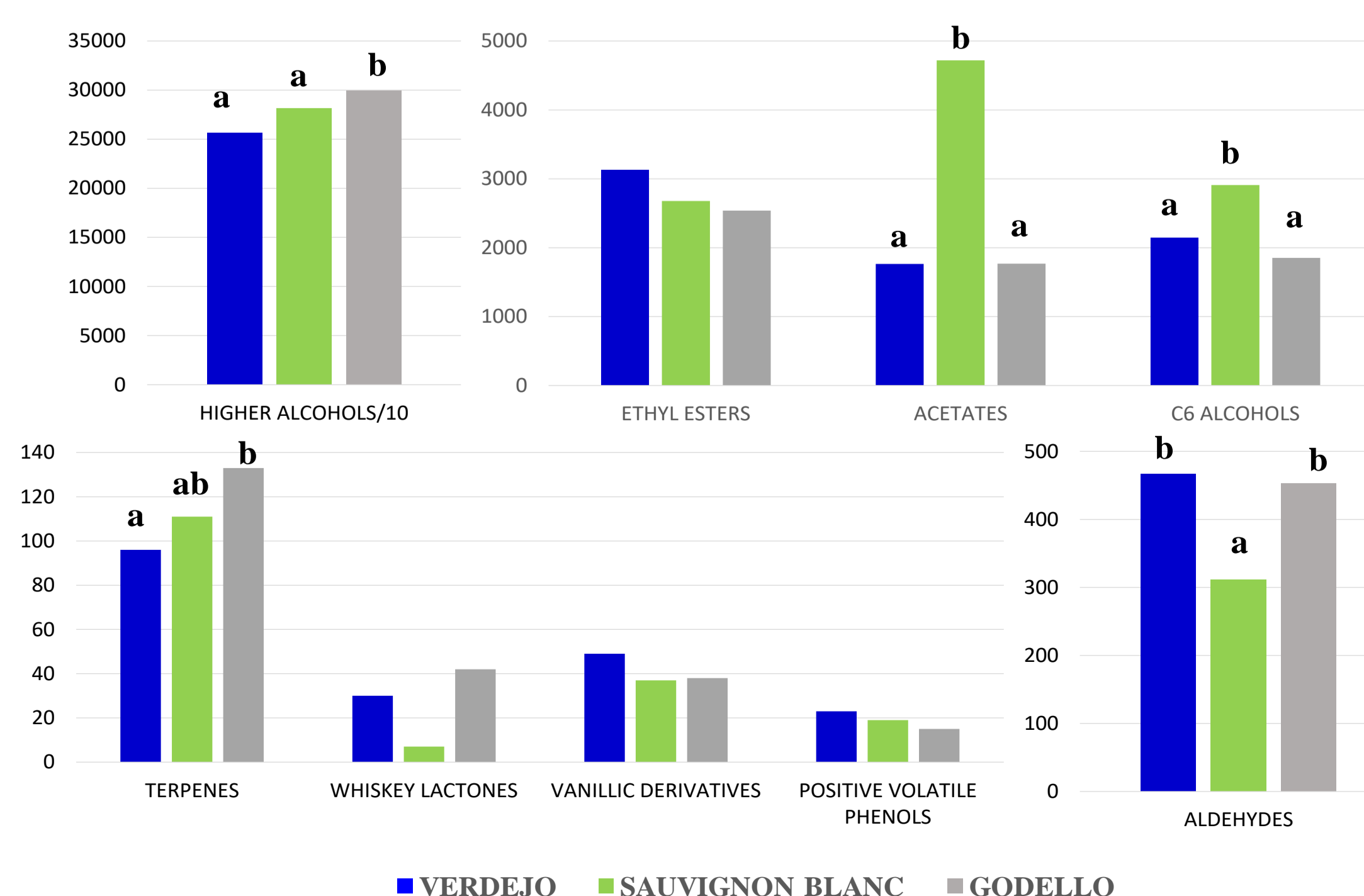
Polyphenolic and polysaccharidic content (mg/L) of the wines elaborated with different grape varieties



*Godello* wines presented the highest ethanol content and *Verdejo* wines the lowest. *Sauvignon Blanc* wines had the highest tartaric esters and flavonols, alcohol acetates and C6 alcohols, and the lowest total polysaccharides and aldehydes. *Godello* wines also had higher content of higher alcohols than *Verdejo* and *Sauvignon Blanc* wines, and higher content of terpenes than *Verdejo* wines.

*Sauvignon Blanc* wines were characterized by having the highest vegetal aromas, *Verdejo* wines by tropical fruity aromas and *Godello* ones by white fruity aromas.

Volatile compound groups (µg/L) of the wines elaborated with different grape varieties



## CONCLUSIONS

Differences in chemo-sensory parameters were found in the wines elaborated with different techniques. The FB+AL technique had more influence on these parameters due to the release of several compounds from oak and lees. The grape variety influence was different depending on the parameter analyzed, highlighting the differences found in the aromatic attributes of each varietal wine.

## ACKNOWLEDGEMENTS

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