

Combined effects of the vessel type and bottle closure during Chilean Sauvignon Blanc wine storage over its volatile profile

- Ubeda C.^{a, b},
- Peña-Neira Á.^c,
- Gil i Cortiella M.

Abstract

A Sauvignon Blanc wine was subjected to a maturation period of six months by using four different types of vessels in triplicate: cylindrical stainless steel tanks, oval-shaped polyethylene tanks, cubic-shaped polyethylene tanks, and clay jars. After maturation in the different vessels, wines were bottled using three different closures (natural cork, synthetic cork, and screwcaps). The volatile compound profiles of the wine samples were recorded by SPME-GC–MS throughout vessel maturation as well as after the bottle storage period. In general terms, wines stored in stainless steel tanks showed the highest contents of volatile compounds when compared with the other tested vessels. Moreover, wines from bottles capped with screwcaps showed the highest contents of most of the volatile compounds when compared with the other closures. Moreover, an interaction between the vessel and the closure was observed: when screwcaps were used during bottle aging, the resulting wines were very similar to those matured in stainless steel vessels. These results suggest that the use of screwcaps hides the differences originating from wine composition during maturation in vessels other than stainless steel. © 2022 Elsevier Ltd

Author keywords

Clay; Natural cork; Polyethylene; Sauvignon Blanc; Screwcap; Stainless steel; Synthetic cork; Volatile compounds; Wine maturation