

## QUALITY IMPROVEMENT OF A WHITE AND A RED WINE WITH LESS SULPHUR DIOXIDE BY THE ADDITION OF A MIXTURE OF GLUTATHIONE, CAFFEIC ACID AND GALLIC ACID

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The effect of a mixture of glutathione, caffeic acid and gallic acid, at 20, 60 and 20 mg/L respectively, on the quality of a white and a red wine with less than the typical SO<sub>2</sub> was studied.

The mixture was added in Vinho Verde white wine containing 20 mg/L free SO<sub>2</sub> at bottling. Wine quality was evaluated in comparison with wine with 20 mg/L and control wine with typical (35 mg/L) free SO<sub>2</sub>. By the storage time, wine in which the mixture was added appeared to be of better quality than that with 20 mg/L free SO<sub>2</sub>. It exhibited higher scores in sensory attributes and lower degree of oxidation as indicated by the chromatic characteristics L\*, b\* and C\*. Wine with typical SO<sub>2</sub> exhibited higher scores in sensory analysis than the others.

The same mixture was also added into a Merlot-Cabernet Sauvignon blend red wine at bottling. Wine quality was evaluated during storage in comparison with wine with 25 mg/L and control wine with typical (35 mg/L) free SO<sub>2</sub>. By the storage time, wine in which the mixture was added appeared to be of better sensory quality than that with 25 mg/L free SO<sub>2</sub>. Moreover, it exhibited higher concentrations of some aroma esters compared to wine with less SO<sub>2</sub>, similar to those of wine with typical SO<sub>2</sub>, as determined by SPME/GC-MS analysis. Wine with typical SO<sub>2</sub> exhibited better aroma than the others.