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Bioprotection as a tool to free additives winemaking: Effect on sensorial, anthocyanic and aromatic profile of young red wines

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1 **Bioprotection as a tool to free additives winemaking: Effect on sensorial,**
2 **anthocyanic and aromatic profile of young red wines**

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11
12 **Abstract**

13 The traditional methodology to make red wine combines the use of
14 *Saccharomyces cerevisiae* yeast and lactic acid bacteria together with sulphur dioxide
15 (SO₂), to ensure wine conservation, preventing oxidation and producing microbiological
16 stable wines. The purpose was to study a recent red winemaking biotechnology, through
17 the use of bioprotectors microorganisms (*Lactobacillus plantarum* and *Lachancea*
18 *thermotolerans*), allowing both fermentations (alcoholic and malolactic) taking place at
19 the same time and without the addition of preservatives as SO₂. This new winemaking
20 strategy has been reported to be efficient since it has the advantage to produce wines
21 with no SO₂, with higher titratable acidity and esters than control wines which followed
22 a conventional fermentation technique. The anthocyanin composition was barely
23 modified by the bioprotectors use and from the sensorial point of view wines were
24 better evaluated, with more fruity, compote, pepper and lactic aromas and more fresh,
25 acid, bitter and astringent than control wines.

26
27 **Keywords:** bioprotection; *Lactobacillus*; non-*Saccharomyces*; volatile compounds;
28 anthocyanin content.

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