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ISOLATION, SELECTION, AND CHARACTERIZATION OF AUTOCHTHONOUS OENOCOCCUS OENI STRAINS ACCORDING TO THEIR OENOLOGICAL PROPERTIES

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The lactic acid bacterium *Oenococcus oeni*, mainly responsible for malolactic fermentation (MLF), is used in new winery process as starter culture for direct inoculation. Induction of MLF by inoculation with commercially available strains of *O. oeni* is not always successful, because wine is a very harsh environment for bacterial growth. Thus, the use of an autochthonous starter culture well-adapted to the conditions of a specific wine-producing area has been recommended.

One hundred and twenty-one strains of *Oenococcus oeni* were isolated during the spontaneous malolactic fermentation of Barbera wines from Monferrato area, the analysis of fingerprinting using the $(GTG)_5$ primer ($(GTG)_5$-PCR) revealed the existence of sixteen different biotypes. The goal of this study is to carry out a characterization of these *Oenococcus oeni* strains, in order to select those showing the highest potential as oenological starter cultures. Various oenological properties like tolerance to low values of pH, to high content of ethanol and to SO_2 concentration were analyzed. Forty % of the tested strains were able to grow and consume malic acid at pH of 3.2 and at 13% of ethanol. The seven strains that produced the best results, on the basis of these properties, were chosen for analyse effects of the interaction between three autochthonousyeast strain used to conduct alcoholic fermentation in simulated laboratory microvinifications.

Three strains showed the highest implantation values. On the basis of this characterization, three strains have been selected which are suitable as starter cultures for MLF of Barbera wine.

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