

## Isolation and characterization of yeast strains with ability to decrease volatile acidity of wines

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The level of acetic acid, the main component of volatile acidity, is critical for wine quality. Its concentration in wines is approximately 0.5 g/L and, legally, must remain below 1.0g/L.

Winemakers use a procedure called “remostagem” to lower acetic acid of wines with high volatile acidity (above 0.8g/L). The spoiled wine is mixed with freshly crushed grapes (1) in a proportion of no more than 20-30% (v/v). The volatile acidity of this mixture and of the newly made wine should not exceed 0.6 and 0.3 g/L, respectively.

The aim of this study is to select wine yeasts capable of decreasing the volatile acidity of spoiled wines. First, from 135 isolates collected during a “remostagem” procedure, 4 wild yeasts were selected based on their ability to consume acetic acid in the presence of glucose at pH 4,0 or 6,0. The 4 strains were further analyzed regarding simultaneous acetic acid and glucose consumption, specific growth rate and ethanol production in comparison to the commercial strain Lalvin QA23, *Saccharomyces cerevisiae* IGC 4072 and *Zygosaccharomyces bailii* ISA 1307, using minimal media containing acetic acid (0.5%, v/v) and glucose (0.5%, w/v) at 25°C and pH 3,0. Although less efficiently than *Z. bailii* the 4 isolated strains were able to use acetic acid in the presence of glucose. Their potential application in the deacidification of acidic wines is being studied.

1. Ribéreau-Gayon *et al.*, 2000. In: *The Microbiology of Wine and Vinifications*. Handbook of Enology, vol 1, pag 64.