

**Año: 2022**

**Título artículo:** Improving an Industrial Sherry Base Wine by Yeast Enhancement Strategies

**Revista, volumen, páginas:** Foods 2022, 11, 1104. <https://doi.org/10.3390/foods11081104>

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#### **RESUMEN:**

There is growing interest in yeast selection for industrial fermentation applications since it is a factor that protects a wine's identity. Although it is strenuous evaluating the oenological characteristics of yeasts in selection processes, in many cases the most riveting yeasts produce some undesirable organoleptic characteristics in wine. The aim of the present work is to improve an industrial yeast strain by reducing its hydrogen sulfide (H<sub>2</sub>S) production. To accomplish this, two different improvement approaches were used on said yeast: hybridization by mass mating and adaptive laboratory evolution, both performed through spore generation and conjugation, thus increasing genetic variability. Three evolved variants with lower H<sub>2</sub>S production were obtained and used as starters to carry out fermentation at an industrial level. Wine quality was analyzed by its principal oenological parameters and volatile aroma compounds, which were both corroborated by sensory evaluations. Significant differences between the produced wines have been obtained and a substantial improvement in aromatic quality has been achieved. Both hybrids were the most different to the control due to terpenes and esters production, while the evolved strain was very similar to the parental strain. Not only have organoleptic defects been reduced at an industrial level, more floral and fruitier wines have been produced.

#### **Agradecimientos:**

P. M. Izquierdo-Cañas thanks the European Social Fund and the Castilla-La Mancha Regional Government for co-funding his contract through the INCRECYT program.