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Título artículo: Evolved *Saccharomyces cerevisiae* strains to reduce ethyl carbamate in Sherry wines.

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RESUMEN:
Urea is the main precursor of ethyl carbamate in fortified wines, which is in turn mostly produced by Saccharomyces cerevisiae due to the arginine catabolism during alcoholic fermentation. Due to its potential safety risks, efforts have been taken to reduce ethyl carbamate content by reducing the urea produced. However, most of them have been made through genetic manipulation, and their use in the food industry is therefore limited by legal constraints. In the present study, the adaptive laboratory evolution technique had been used to improve this trait in a diploid wine yeast already used at industrial level to obtain Sherry base wine. For this purpose, the genetic variability of the yeast population was increased by sexual reproduction and subsequently canavanine, a toxic arginine analogue, was applied as selective pressure to select yeast variants with lower urea production. Finally, an evolved variant that showed 62% lower urea content than the parental strain, also displaying an enhanced fermentative performance, was selected. The base Sherry wine obtained at industrial level not only showed a lower urea and ethyl carbamate content, but also an improvement in the aromatic profile, being fruitier and fresher than that obtained with the parental strain mainly due to an increase in ester content.

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