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Giuseppina Paola Parpinello, Arch Gen Intern Med 2018, Volume 2 | DOI: 10.4066/2591-7951-C6-017

NEW CHALLENGING YEASTS IN ENOLOGY: THE CASE OF *SACCHAROMYCES EUBAYANUS*

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Among the microorganisms that take part in the vinification process, yeasts play a role of primary importance as they are responsible for sensory properties. Saccharomyces cerevisiae and the related species of Saccharomyces bayanus are considered the most important yeasts for the fermentation process and, as a consequence they have become the species around which the starter culture technology has developed. The alcoholic fermentation has considered as a key process, whereby the winemakers can modulate the character and quality of the wine, through an optimal management of the yeast, and at the same time can strategically shape wines according to market changes. In this view the research and developments departments have been facing an increasing demand for new and better yeast strains, which can be used in the production of different types of wine, characterized by a strong stylistic distinction. In this study we investigated the potential of *Saccharomyces eubayanus* CBS 12357 in fermentation of Chardonnay musts at different temperatures (10, 16, 26°C). The technological characteristics of *Saccharomyces eubayanus* were compared in two following vintages to those of two Saccharomyces cerevisiae commercial strains widespread within the enology sector. Several analyses were carried out during fermentation ad well ad in the final wines. The fermentation kinetics and the yeast cell loads were monitored. The enological parameters as well as the aromatic and sensory profiles were determined in the final wines. The obtained results showed the great cryotolerance of *Saccharomyces eubayanus* which resulted, at 10 and 16°C, able of faster fermentations compared to Saccharomyces cerevisiae commercial yeast. Moreover *Saccharomyces eubayanus* produced wines characterized by a specific volatile molecule fingerprinting. The results suggest that *Saccharomyces eubayanus* can be a valid alternative in winemaking.

BIOGRAPHY

Giuseppina Paola Parpinello has her PhD in microbial biotechnology since 2006 and is assistant professor at the University of Bologna, Italy where she teaches "Chemical and Sensory Analyses of Wines", "Wine Tasting" and "Wine Technology". She worked in leading international institutions worldwide (Canada, USA, Chile, New Zealand) for about 3 years. Her research mainly focuses on Winemaking processes; chemical and sensory evaluation of fruit juices and fermented beverages; analytical techniques: UV-Vis, IR, HPLC, IC, MECK, GC-MS, electronic nose, statistical analysis and correlation between analytical techniques and sensory data. Parpinello has over 100 publications in journals focusing on quality and process of beverages, in particular wine and her publication *h-index* is 22.

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